PB81-115107

Testing Support for Evaluation of Inspection/Maintenance Issues (Test Group Nos. 3, 4 and 7)

Hamilton Test Systems, Inc.
Phoenix, AZ

Prepared for

Environmental Protection Agency
Ann Arbor, MI

1979

U.S. Department of Commerce
National Technical Information Service
NTIS

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO. PB81 115107
4. TITLE AND SUBTITLE Testing Support for Evaluation of Inspection/ Maintenance Issues (Test Group No. 3, 4, and 7)		5. REPORT DATE 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Hamilton Test Systems, Inc. 2303 East Thomas Rd. Phoenix, Arizona 85016		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS U.S. Environmental Protection Agency Office of Mobile Source Air Pollution Control Emission Control Technology Division Ann Arbor, Michigan 48105		13. TYPE OF REPORT AND PERIOD COVERED Technical 14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES		

16. ABSTRACT

The Element III portion of Contract No. 68-03-2513 (Test Group Nos. 3 and 4) was performed to gather vehicle emissions data to evaluate deterioration effects of exhaust emissions over short periods of time. The deterioration effects were determined by measuring the exhaust emissions after inspection and maintenance, measuring the exhaust emissions after a specific time interval, and comparing the results of the two test sequences. The time intervals selected were one month, two months, and three months. To assist in determining the cause of deterioration, vehicles that exhibited significant deterioration in exhaust emissions were adjusted to manufacturers specifications, tested and then retested after one month.

The intention of Test Group No. 7 was to evaluate the effects of mechanic training on emission reductions achieved by motor vehicle inspection and maintenance (I/M) programs.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Tests Deterioration Motor vehicles Automobiles Exhaust emissions Exhaust gases Inspection Maintenance	Inspection/Maintenance programs Mechanic training	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES
Release unlimited	Unclassified	
	20. SECURITY CLASS *(This page)*	22. PRICE
	Unclassified	

EPA Form 2220-1 (9-73)

TESTING SUPPORT FOR EVALUATION OF INSPECTION/MAINTENANCE ISSUES

(TEST GROUP NOS. 3, 4 & 7)

by

Hamilton Test Systems, Incorporated
2303 East Thomas Road
Phoenix, Arizona 850.6

Contract No. 68-03-2829
EPA Project Officer: H. Anthony Ashby

Prepared for

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Mobile Source Air Pollution Contol
Emission Control Technology Division
Ann Arbor, Michigan 48105

TABLE OF CONTENTS

		Page
1.0	INTODUCTION	
2.0	SUMMARY	
3.0	PROGRAM OBJECTIVE	
4.0	PROGRAM DESIGN	
4.1	FACILITIES AND EQUIPMENT	
4.1.1	State Inspection Station Facility	
4.1.2	HTS Facility	
4.1.3	Constant Volume Sampler (CVS)	
4.1.4	Dynamometer	
4.1.5	Exhaust Gas Analysis Console	
4.1.6	Computer System	
4.1.7	Miscellaneous Equipment	
4.2	EQUIPMENT QUALIFICATION AND CALIBRATION	
4.2.1	Constant Volume Sampler (CVS)	
4.2.2	Analytical Instrumentation	
4.2.3	Dynamometer	
4.2.4	Garage Analyzer Checks	
4.2.5	Equipment Logs	
4.3	TEST PROCEDURES	
4.3.1	Idle Inspection Test	
4.3.2	Diagnostic Inspection	
4.3.3	Vehicle FTP Preparation	
4.3.4	Federal Test Procedure (FTP)	
4.3.5	Federal Three-Mode Test	
4.3.6	Highway Fuel Economy Test (HFET)	
4.3.7	Two-Mode Test	
4.3.8	50 MPH Cruise Test	
4.3.9	Four-Mode Idle Test	
4.3.10	Propane Gain Checks	
4.4	DATA HANDLING AND QUALITY CONTROL	
4.4.1	Manual Data Handling	
4.4.2	Emissions Data Handling	
4.4.3	Mass Emissions and Fuel Economy Calculations	

TABLE OF CONTENTS (cont'd)

		Page
5.0	TEST GROUP DIRECTIONS	5-1
5.1	TEST GROUP NO. 1 - THREE WAY CATALYST VEHICLE TESTS	5-2
5.1.1	Summary	5-2
5.1.2	Vehicle Selection	5-3
5.1.3	Vehicle Recruitment	5-3
5.1.4	Test Procedures	5-6
5.1.5	Test Results	5-8
5.2	TEST GROUP NO. 2 - ELEMENT II CONTINUATION TESTS	5-41
5.2.1	Summary	5-41
5.2.2	Vehicle Selection & Recruitment	5-41
5.2.3	Test Procedures	5-41
5.2.4	Test Results	5-42
5.3	TEST GROUP NO. 5 - EFFECTIVENESS OF EGR REPAIRS	5-42
5.3.1	Summary	5-43
5.3.2	Vehicle Selection	5-44
5.3.3	Vehicle Recruitment	5-44
5.3.4	Test Procedures	5-46
5.3.5	Test Results	5-47
5.4	TEST GROUP NOS. 3 & 4 - ELEMENT III RETESTS	5-61
5.4.1	Summary	5-61
5.4.2	Vehicle Selection & Recruitment	5-61
5.4.3	Test Procedures	5-69
5.4.4	Test Results	5-70
5.5	TEST GROUP NO. 7 - MECHANIC TRAINING EVALUATION	5-81
5.5.1	Summary	5-81
5.5.2	Vehicle Selection	5-83
5.5.3	Vehicle Recruitment	5-83
5.5.4	Test Procedures	5-88
5.5.5	Test Results	5-91

APPENDICES

APPENDIX A - Test Group No. 1 Initial Test Results

APPENDIX B - Idle Test Results

APPENDIX C - FTP & HFET Test Results

LIST OF TABLES

Table Number	Title	Page
5.5-1	Vehicle Identification Information & AHP Settings	5-5
5.1-2	EPA NO. 84204 Test Results	5-10
5.1-3	EPA NO. 84707 Test Results	5-13
5.1-4	EPA NO. 94703 Test Results	5-16
5.1-5	EPA NO. 94706 Test Results	5-19
5.1-6	EPA NO. 95206 Test Results	5-23
5.1-7	EPA NO. 95209 Test Results	5-27
5.1-8	EPA NO. 95213 Test Results	5-31
5.1-9	EPA NO. 95214 Test Results	5-34
5.1-10	EPA NO. 95201 Test Results	5-37
5.1-11	EPA NO. 95212 Test Results	5-39
5.3-1	Vehicle Identification Information & AHP Settings	5-45
5.3-2	DEQ & HTS Idle Tests	5-49
5.3-3	Two Mode & 50 MPH Cruise Tests	5-51
5.3-4	Four Mode Test	5-53
5.3-5	FTP & HFET	5-55
5.3-6	EGR System Maintenance	5-57
5.3-7	Propane Gain Checks	5-59
5.4-1	Listing of Vehicles	5-62
5.4-2	Composite of Test Results	5-71
5.4-3	DEQ & HTS Idle Test Results	5-74
5.4-4	FTP & HFET Results	5-76
5.4-5	Maintenance for Final Retest	5-78
5.5-1	Vehicle Identification Information (Pre-Mechanic Training)	5-85
5.5-2	Vehicle Identification Informaiton (Post-Mechanic Training)	5-86
5.5-3	DEQ & HTS Idle Test Results (Pre-Mechanic Training)	5-93
5.5-4	DEQ & HTS Idle Test Results (Post-Mechanic Training)	5-98
5.5-5	Two Mode & 50 MPH Cruise Tests (Pre-Mechanic Training)	5-105
5.5-6	Two Mode & 50 MPH Cruise Tests (Post-Mechanic Training)	5-110
5.5-7	Four Mode Test (Pre-Mechanic Training)	5-117
5.5-8	Four Mode Test (Post-Mechanic Training)	5-122
5.5-9	FTP & HFET (Pre-Mechanic Training)	5-129
5.5-10	FTP & HFET (Post-Mechanic Training)	5-134

LIST OF TABLES (CONT'D)

Table Number	Title	Page
5.5-11	Diagnosis and Maintenance (Pre-Mechanic Training)	5-141
5.5-12	Diagnosis and Maintenance (Post-Mechanic Training)	5-146
5.5-13	Propane Gain Test (Pre-Mechanic Training)	5-153
5.5-14	Propane Gain Test (Post-Mechanic Training)	5-158
5.5-15	Tire Pressure Checks (Pre-Mechanic Training)	5-165
5.5-16	Tire Pressure Checks (Post-Mechanic Training)	5-166
5.5-17	Composite of Test Results (Pre-Mechanic Training)	5-168
5.5-18	Composite of Test Results (Post-Mechanic Training)	5-169

5.4 TEST GROUPS NO. 3 & 4 - ELEMENT III RETESTS

5.4.1 SUMMARY

The Element III portion of Contract No. 68-03-2513 was performed to gather vehicle emissions data to evaluate deterioration effects of exhaust emissions over short periods of time. The deterioration effects were determined by measuring the exhaust emissions after inspection and maintenance, measuring the exhaust emissions after a specific time interval, and comparing the results of the two test sequences. The time intervals selected were one month, two months, and three months. To assist in determining the cause of deterioration, vehicles that exhibited significant deterioration in exhaust emissions were adjusted to manufacturer's specifications, tested and then retested after one month. 703 tests were conducted in the Element III program and the results are presented in document EPA 460/3-79-009 "Portland Study Element III - Post I/M Deterioration Study".

As a continuation of the deterioration study on the vehicles tested in Element III, Test Groups No. 3 and No. 4 were generated. Test Group No. 3 provided a six month and twelve month retest and Test Group No. 4 provided a nine month retest on all recruitable vehicles. The time of the retests was based on the date of the initial test of the vehicles in the Element III program. Test Group No. 3 also established a limited restorative maintenance and retest sequence on vehicles which failed the state idle test during the twelve month retest.

5.4.2 VEHICLE SELECTION & RECRUITMENT

All vehicles which completed the Element III portion of Contract No. 68-03-2513 were the vehicles selected for recruitment. The selection consisted of 276 1975 through 1977 model year Portland vehicles. A listing of the vehicles is provided on Table 5.4-1.

The incentives for recruitment for each test included a U. S. Savings Bond (cash value $37.50), the use of a late model loan car, purchase of the DEQ registration certificate, if required, and a full tank of gas upon return of the participant's vehicle.

TABLE 5.4-1 - LISTING OF VEHICLES

Legend for Table

EPA NO	-	1st Digit Represents Vehicle Model Year 2nd Digit Represents Initial DEQ Pass/Fail Status (1 = Pass, 2 = Fail)
VEH IDENT NO	-	Vehicle Identification Number (VIN)
MAKE	-	Vehicle Make Code (see next page)
MODL	-	Vehicle Model Code (see next page)
CID	-	Engine Displacement in Cubic Inches
C	-	Number of Cylinders
T	-	Transmission Type (1 = Manual, 2 = Auto)
F	-	Fuel Metering System (1 = 1-barrel carb, 2 = 2-barrel carb, 3 = 4-barrel carb, 4 = CVCC (Honda), 5 = Fuel Injection)
EI	-	Electronic Ignition (1 = Yes, 2 = No)
CA	-	Canister Evap. Control (1 = Yes, 2 = No)
CE	-	Crankcase Evap. Control (1 = Yes, 2 = No)
AC	-	Air Conditioning (1 = Yes, 2 = No)
EM	-	Engine Modification (1 = Yes, 2 = No)
AS	-	AIR System (1 = Yes, 2 = No)
CC	-	Catalytic Converter (1 = Yes, 2 = No)
ES	-	EGR System (1 = Yes, 2 = No)

TABLE 5.4-1 (CONT'D)

MAKE CODES

CODE	MANUFACTURER	CODE	MANUFACTURER	CODE	MANUFACTURER
010	AMC	041	Buick	260	Honda
021	Chrysler	042	Cadillac	380	Datsun
022	Dodge	043	Chevrolet	570	Toyota
023	Plymouth	044	Oldsmobile	590	Volkswagen
031	Ford	045	Pontiac	600	Volvo
033	Mercury			640	Audi

MODEL CODES

CODE	NAME	CODE	NAME	CODE	NAME
108	Hornet	349	Pinto	462	LeSabre
112	Pacer	372	Thunderbird	464	Regal
210	Cordoba	373	Torino	472	Caprice
224	Colt	380	B210	478	Impala
225	Coronet	392	Monarch	481	Laguna
227	Dart	394	Montego	482	Malibu
254	Aspen	414	Apollo	483	Monte Carlo
261	Civic	417	Century	486	Nova
262	Civic CVCC	418	Electra	488	Vega
272	Arrow	425	Deville	489	Chevette
275	Fury	429	Seville	494	Cutlass Supreme
285	Valiant	439	Camaro	570	Corolla
287	Volare	443	Custom Cruiser	571	Corolla Wagon
313	Ford Wagon	444	Cutlass	572	Celica
316	Elite	446	Delta 88	573	Corona
342	Granada	448	Ninety Eight	590	Beetle
343	Gran Torino	452	Bonneville	591	Rabbit
345	LTD	453	Catalina	592	Dasher
347	Maverick	457	Grand Prix	594	Scirocco
348	Mustang	459	Grand Ville	600	240
				640	Fox
				641	Fox Wagon

TABLE 5.4-1 (CONT'D) - LISTING OF VEHICLES
1975-77 PORTLAND PASS

EPA NO	VEH IDENT NO	MAKE	MODL	CID	C	T	F	EI	CA	CE	AC	EM	AS	CC	ES
51000	5T12Y127115	031	349	140	4	1	2	1	1	2	2	2	1	2	1
51001	1152036976	590	590	097	4	1	5	2	1	2	2	2	1	2	2
51002	5J63H130378	031	345	351	8	2	2	1	1	2	1	2	1	1	1
51003	5K92L110770	031	347	250	6	2	1	1	1	2	2	2	1	1	1
51004	1H57H5Z442994	043	483	350	8	2	2	1	1	2	1	2	2	1	1
51005	TE31008020	570	570	097	4	1	2	2	1	2	2	2	1	2	2
51006	5K91F123579	031	347	302	8	2	2	1	1	2	1	2	1	1	1
51007	5X11Z114645	031	349	171	6	2	2	1	1	2	2	2	1	1	1
51008	HLB210543333	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51009	RT119003881	570	573	133	4	1	2	2	1	2	2	2	2	1	1
51010	6D47S5Q160139	042	425	500	8	2	3	1	1	2	1	2	2	1	1
51011	1D29H5Z442511	043	482	350	8	2	2	1	1	2	1	2	2	1	1
51012	1D35H5Z412113	043	482	350	8	2	2	1	1	2	1	2	2	1	1
51013	3J57K5Q235735	044	494	350	8	2	3	1	1	2	1	2	2	1	1
51014	5H42H170757	031	373	351	8	2	2	1	1	2	2	2	1	1	1
51015	RK41G5A145408	023	275	318	8	2	2	1	1	2	1	1	2	1	1
51016	1L69H5J127818	043	478	350	8	2	2	1	1	2	2	2	2	1	1
51017	TE380009163	570	571	097	4	1	2	2	1	2	2	2	1	2	2
51018	SGA1009019	260	262	091	4	1	4	2	1	2	2	2	2	2	2
51019	5G21S168856	031	316	400	8	2	2	1	1	2	1	2	1	1	1
51020	TE31C30857	570	570	097	4	1	2	2	1	2	2	2	1	2	2
51021	A5A667A210855	010	112	258	6	2	1	1	1	2	1	2	1	2	1
51022	6D47S5Q171999	042	425	500	8	2	3	1	1	2	1	2	2	1	1
51023	1L39H5J200190	043	478	350	8	2	2	1	1	2	1	2	2	1	1
51024	HLB210083953	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51051	HLB210520597	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51052	2P35S5X151382	045	452	400	8	2	3	1	1	2	1	2	2	1	1
51053	RP23G5G121572	023	275	318	8	2	2	1	1	2	1	1	2	1	1
51054	4P39J5X119214	041	462	350	8	2	3	1	1	2	1	2	2	1	1
51055	RH23G5A142050	023	275	318	8	2	2	1	1	2	1	1	2	1	1
51056	RT119003885	570	573	133	4	1	2	2	1	2	1	2	2	1	1
51057	5H08H544671	033	394	351	8	2	2	1	1	2	1	2	1	1	1
51058	1152032884	590	590	097	4	1	5	2	1	2	2	2	2	2	1
51059	5W82F189828	031	342	302	8	2	2	1	1	2	1	2	1	1	1
51060	1152033875	590	590	097	4	1	5	2	1	2	2	2	2	2	2
51061	HLB210575197	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51062	RT119004555	570	573	133	4	1	2	2	1	2	2	2	1	2	1
51063	5J64S135615	031	345	400	8	2	2	1	1	2	1	2	1	1	1
51064	2K57S5P229798	045	457	400	8	2	3	1	1	2	1	2	2	1	1
51065	HLB210577030	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51066	5W35F530581	033	392	302	8	2	2	1	1	2	2	2	1	1	1
51067	1V11B5U181265	043	488	140	4	1	2	1	1	2	2	2	2	1	1
51068	5J63H147638	031	345	351	8	2	2	1	1	2	1	2	1	1	1
51069	TE38011650	570	571	097	4	1	2	2	1	2	2	2	1	2	2
51070	SBC3306658	260	261	076	4	1	2	2	1	2	2	2	1	2	2
51071	5J68S139476	031	345	400	8	2	2	1	1	2	1	2	1	1	1
51073	1L39H5J225888	043	478	350	8	2	2	1	1	2	1	2	2	1	1
51101	TE31039506	570	570	097	4	1	2	2	1	2	2	2	1	2	2
51102	5R12Y134042	031	349	140	4	1	2	1	1	2	1	2	1	2	1
51103	3J45K5R134746	044	494	350	8	2	3	1	1	2	1	2	2	1	1
51104	1L47H5J202179	043	478	350	8	2	2	1	1	2	1	2	2	1	1
51105	SBA3311080	260	261	076	4	1	2	2	1	2	2	2	1	2	2
51106	SBC3316870	260	261	076	4	1	2	2	1	2	2	2	1	2	2
51107	1L47H5J174330	043	478	350	8	2	2	1	1	2	1	2	2	1	1
51108	RT119005584	570	573	133	4	1	2	2	1	2	2	2	2	1	1
51109	5R12Z130545	031	349	171	6	2	2	1	1	2	2	2	1	1	1
51110	1Y69D5L152243	043	486	250	6	2	1	1	1	2	1	2	2	1	1
51111	2L57S5X113522	045	453	400	8	2	3	1	1	2	1	2	2	1	1
51112	3R45T5X128591	044	443	455	8	2	3	1	1	2	1	2	2	1	1
51113	SGE1024684	260	262	091	4	1	4	2	1	2	2	2	2	2	2

TABLE 5.4-1 (CONT'D) - LISTING OF VEHICLES

1975 - 77 PORTLAND PASS

EPA NO	VEH IDENT NO	MAKE	MODL	CID	C	T	F	EI	CA	CE	AC	EM	AS	CC	ES
51114	5G21H191137	031	316	351	8	2	2	1	1	2	1	2	1	1	1
51115	5W82L216827	031	342	250	6	2	1	1	1	2	1	2	1	1	1
51116	5P63H110173	031	345	351	8	2	2	1	1	2	1	2	1	1	1
51117	1H57H5Z447358	043	483	350	8	2	2	1	1	2	1	2	2	1	1
51118	SS22K5R279335	021	210	360	8	2	2	1	1	2	1	2	2	1	1
51119	5W81L218338	031	342	250	6	2	1	1	1	2	2	2	1	1	1
51120	HLB210090800	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51121	1G87H5N604555	043	439	350	8	2	2	1	1	2	2	2	2	1	1
51122	5P74S109996	041	399	400	8	2	2	1	1	2	2	2	1	1	1
51123	TE38011994	570	571	097	4	1	2	2	1	2	2	2	1	2	2
51124	A5A667A295619	010	112	258	6	2	1	1	1	2	1	2	2	2	1
51125	5W81F203487	031	342	302	8	2	2	1	1	2	1	2	1	1	1
51126	5G21S210307	031	316	400	8	2	2	1	1	2	1	2	1	1	1
51127	HLB210581230	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51128	RH41G5A159271	023	275	318	8	2	2	1	1	2	1	1	2	1	1
51129	5W37F518032	033	392	302	8	2	2	1	1	2	2	2	1	1	1
51130	TE38004994	570	571	097	4	1	2	2	1	2	2	2	1	2	2
51131	1352140437	590	590	097	4	1	5	2	1	2	2	2	2	2	1
51132	HLB210094342	380	380	085	4	1	2	2	1	2	2	2	1	2	1
51133	8452047591	640	640	097	4	1	5	2	1	2	2	2	2	2	1
51134	5W82F218331	031	342	302	8	2	2	1	1	2	1	2	1	1	1
51135	6049S502852o2	042	425	500	8	2	3	1	1	2	1	2	2	1	1
61000	1D37Q6Z423998	043	482	305	8	2	2	1	1	2	1	2	2	1	1
61001	6R11Y102851	031	349	140	4	2	2	1	1	2	2	2	1	1	1
61002	1Y27Q6L129662	043	486	305	8	2	2	1	1	2	1	2	2	1	1
61003	1H57Q6Z426097	043	483	305	8	2	2	1	1	2	1	2	2	1	1
61004	1Y69Q6K114914	043	486	305	8	2	2	1	1	2	1	2	2	1	1
61005	VL41C6G166830	023	285	225	6	2	1	1	1	2	1	2	2	1	1
61006	HP29G6B118559	023	287	318	8	2	2	1	1	2	1	2	2	1	1
61051	1X69Q6L136972	043	486	305	8	2	2	1	1	2	1	2	2	1	1
61052	1X69Q6K118319	043	486	305	8	2	2	1	1	2	1	2	2	1	1
61053	6S69R6Q50o766	042	429	350	8	2	5	1	1	2	1	2	1	1	1
61054	1E37Q6Z400422	043	481	305	8	2	2	1	1	2	1	2	2	1	1
61055	1H57Q6Z450438	043	483	305	8	2	2	1	1	2	1	2	2	1	1
61056	6X12Y202478	031	349	140	4	1	2	1	1	2	2	2	1	1	1
61057	6W83L234977	031	342	250	6	2	1	1	1	2	2	2	1	1	1
61058	HL41C6F194843	023	287	225	6	2	1	1	1	2	2	2	2	1	1
61059	HP29G6B295772	023	287	318	8	2	2	1	1	2	2	2	2	1	1
61060	6A40H130623	031	373	351	8	2	2	1	1	2	2	1	1	1	1
61061	6W81L195666	031	342	250	6	2	1	1	1	2	1	2	1	1	1
61062	6G21H190211	031	316	351	8	2	2	1	1	2	1	2	1	1	1
61101	6X10Y135900	031	349	140	4	1	2	1	1	2	2	2	1	1	1
61102	6R02Y137100	031	348	140	4	2	2	1	1	2	2	2	1	1	1
61103	6W82L222255	031	342	250	6	2	1	1	1	2	2	2	1	1	1
61104	HP29G6B338118	023	287	318	8	2	2	1	1	2	2	2	2	1	1
61105	1808E6Y240047	043	489	098	4	2	1	1	1	2	2	2	2	1	1
61106	6H42H174382	031	373	351	8	2	2	1	1	2	1	1	1	1	1
61107	1D37Q6Z457556	043	482	305	8	2	2	1	1	2	1	2	2	1	1
71000	SGC3003721	260	262	091	4	1	4	2	1	2	2	2	2	2	2
71001	HH45G7G144824	023	287	318	8	2	2	1	1	2	1	2	1	1	1
71002	HLB210823065	380	380	085	4	1	2	2	1	2	2	2	1	2	1
71003	RA29077128	570	572	133	4	1	2	2	1	2	2	2	1	2	1
71004	7P74S132107	031	313	400	8	2	2	1	1	2	1	2	2	1	1
71005	2J57Y7P220042	045	457	301	8	2	2	1	1	2	1	2	2	1	1
71006	6S69R7Q466688	042	429	350	8	2	5	1	1	2	1	2	1	1	1
71007	7P64H134045	031	345	351	8	2	2	1	1	2	1	2	2	1	1
71008	1773225878	590	591	097	4	1	1	2	1	2	1	2	1	1	1
71009	1N69U7C122715	043	472	305	8	2	2	1	1	2	1	2	2	1	1
71010	RT105037986	570	573	134	4	1	2	2	1	2	1	2	1	2	1
71011	7X11Y102902	031	349	140	4	1	2	1	1	2	2	2	1	1	1

TABLE 5.4-1 (CONT'D) - LISTING OF VEHICLES

1975 - 77 PORTLAND PASS

EPA NO	VEH IDENT NO	MAKE	MODL	CID	C	T	F	EI	CA	CE	AC	EM	AS	CC	ES
71012	1D37U7Z418776	043	482	305	8	2	2	1	1	2	1	2	2	1	1
71013	1L69U7C143488	043	478	305	8	2	2	1	1	2	1	2	2	1	1
71014	SBC5012139	260	261	076	4	1	2	2	1	2	2	2	1	2	2
71015	2J57Y7P247003	045	457	301	8	2	2	1	1	2	1	2	2	1	1
71016	RA24067673	570	572	133	4	1	2	2	1	2	2	2	1	2	1
71017	7T11Y120414	031	349	140	4	1	2	1	1	2	2	2	1	1	1
71018	RT119042209	570	573	134	4	1	2	2	1	2	2	2	1	2	1
71019	4J57C7Z140498	041	464	231	6	2	2	1	1	2	1	2	2	1	1
71020	1B08E7Y122880	043	489	085	4	2	1	1	1	2	2	2	1	1	1
71021	1H57L7Z454883	043	483	350	8	2	3	1	1	2	1	2	2	1	1
71022	SBC5013569	260	261	076	4	1	2	2	1	2	2	2	1	2	2
71051	SGC3003323	260	262	091	4	1	4	2	1	2	2	2	2	2	2
71052	7F03Y126636	031	348	140	4	1	2	1	1	2	2	2	1	1	1
71053	SGL3508500	260	262	091	4	1	4	2	1	2	2	2	2	2	2
71054	1X69D7L135243	043	486	250	6	2	1	1	1	2	2	2	2	1	1
71055	2L69Y7X1240c2	045	453	301	8	2	2	1	1	2	1	2	2	1	1
71056	4D29C7Z148613	041	417	231	6	2	2	1	1	2	1	2	2	1	1
71057	1H57L7K512860	043	483	350	8	2	3	1	1	2	1	2	2	1	1
71058	1L35L7J256613	043	478	350	8	2	3	1	1	2	1	2	2	1	1
71059	7J64S171280	031	345	400	8	2	2	1	1	2	1	2	2	1	1
71060	7P24U78703317	023	272	098	4	1	2	2	1	2	2	2	1	2	1
71061	7J87S160389	031	372	400	8	2	2	1	1	2	1	2	2	1	1
71062	VC24445H12056	600	600	130	4	1	5	1	1	2	2	2	2	1	1
71063	3457R7M37e062	044	494	350	8	2	3	1	1	2	1	2	2	1	1
71064	HH45G7B329731	023	287	318	8	2	2	1	1	2	1	2	1	1	1
71065	3N69K7C108716	044	446	403	8	2	3	1	1	2	1	2	2	1	1
71066	6S69R7Q473980	042	429	350	8	2	5	1	1	2	1	2	1	1	1
71067	HLB210862383	380	380	085	4	1	2	2	1	2	2	2	1	2	1
71068	7X11Y184838	031	349	140	4	1	2	1	1	2	2	2	1	1	1
71069	HLB210212987	380	380	085	4	1	2	1	1	2	2	2	1	2	1
71070	1773328934	590	591	097	4	1	1	2	1	2	2	1	2	2	1
71071	RT105046082	570	573	134	4	1	2	2	1	2	2	2	1	2	1
71072	1D37U7Z477755	043	482	305	8	2	2	1	1	2	1	2	2	1	1
71073	RA29099643	570	572	133	4	1	2	2	1	2	2	2	1	2	1
71074	7X91L143536	031	347	250	6	2	1	1	1	2	2	2	2	1	1
71075	VC24445H12025	600	600	130	4	1	5	1	1	2	2	2	2	1	1
71076	7w84F208326	031	342	302	8	2	2	1	1	2	1	2	2	1	1
71101	HP29D7B222041	023	287	225	6	2	2	1	1	2	2	2	1	1	1
71102	7J87S158549	031	372	400	8	2	2	1	1	2	1	2	2	1	1
71103	6S69R7Q479420	042	429	350	8	2	5	1	1	2	1	2	1	1	1
71104	2J57Y7P211608	045	457	301	8	2	2	1	1	2	1	2	2	1	1
71105	7X12Y138986	031	349	140	4	2	2	1	1	2	2	2	1	1	1
71106	RA29087005	570	572	133	4	1	2	2	1	2	1	2	1	2	1
71107	RT119045606	570	573	134	4	1	2	2	1	2	2	2	1	2	1
71108	HLB210206050	380	380	085	4	1	2	1	1	2	2	2	1	2	1
71109	6H21K71401467	022	224	098	4	1	2	2	1	2	2	2	1	2	1
71110	HLB210317279	380	380	085	4	1	2	2	1	2	2	2	1	2	1
71111	RA24077389	570	572	133	4	1	2	2	1	2	2	1	1	2	1
71112	7W34F554120	033	392	302	8	2	2	1	1	2	1	2	2	1	1
71113	3N69K7C106427	044	446	403	8	2	3	1	1	2	1	2	2	1	1
71114	1H57U7Z482446	043	483	305	8	2	2	1	1	2	2	2	2	1	1
71115	1H57L7K509582	043	483	350	8	2	3	1	1	2	1	2	2	1	1
71116	RT105049128	570	573	134	4	1	2	2	1	2	2	2	1	2	1
71117	HLB210206050	380	380	085	4	1	2	1	1	2	2	2	1	1	1
71118	7J87H173826	031	372	351	8	2	2	1	1	2	1	2	2	1	1
71119	1773396892	590	591	097	4	1	1	2	1	2	2	1	1	2	1
71120	7W34L525969	033	392	250	6	2	1	1	1	2	2	2	2	1	1
71121	6S69R7Q476796	042	429	350	8	2	5	1	1	2	1	2	1	1	1
71122	1172071997	590	590	097	4	1	5	2	1	2	2	2	1	2	2
71123	1X69D7W179762	043	486	250	6	2	1	1	1	2	2	2	2	1	1

TABLE 5.4-1 (CONT'D) - LISTING OF VEHICLES

1975 - 77 PORTLAND FAIL

EPA NO	VEH IDENT NO	MAKE	MODL	CID	C	T	F	EI	CA	CE	AC	EM	AS	CC	ES
52001	1X69D5L136032	043	486	250	6	2	1	1	1	2	2	2	2	1	1
52002	VH29C5G114796	023	285	225	6	2	1	1	1	2	2	1	2	1	1
52003	SS22K5R185621	021	210	360	8	2	2	1	1	2	1	1	2	1	1
52004	5X11Y151225	031	349	140	4	2	2	1	1	2	2	2	1	2	1
52005	8552022200	640	640	097	4	1	5	2	1	2	1	2	2	2	1
52006	2P45W5X128219	045	452	455	8	2	3	1	1	2	1	2	2	1	1
52007	A5A087A121573	010	108	258	6	2	1	1	1	2	2	2	1	2	1
52008	4B17C5K112321	041	414	231	6	2	2	1	1	2	1	2	2	1	1
52009	5K92F109618	031	347	302	8	2	2	1	1	2	1	2	1	1	1
52010	2K57S5P230694	045	457	400	8	2	3	1	1	2	1	2	2	1	1
52011	1V15B5G128049	043	488	140	4	2	2	1	1	2	2	2	2	1	1
52012	8452042048	640	640	097	4	1	5	2	1	2	2	2	2	2	1
52013	5K92L139254	031	347	250	6	2	1	1	1	2	2	2	1	1	1
52014	4B27C5L109359	041	414	231	6	2	2	1	1	2	2	2	2	1	1
52015	HLB210549135	380	380	085	4	1	2	2	1	2	2	2	1	2	1
52016	RT105003412	570	573	133	4	1	2	2	1	2	2	2	2	1	1
52017	5K91L120384	031	347	250	6	2	1	1	1	2	2	2	1	1	1
52018	1V15B5J171730	043	488	140	4	1	2	1	1	2	2	2	2	1	1
52019	VH29C5B207786	023	285	225	6	2	1	1	1	2	1	1	2	1	1
52020	3J57K5Y165158	044	494	350	8	2	3	1	1	2	1	2	2	1	1
52021	2K57S5P174627	045	457	400	8	2	3	1	1	2	1	2	2	1	1
52051	8552047509	640	640	097	4	1	5	2	1	2	2	2	2	2	1
52052	4X37T5H430143	041	418	455	8	2	3	1	1	2	1	2	2	1	1
52053	1Y69D5L138300	043	486	250	6	2	1	1	1	2	1	2	2	1	1
52054	1D37H5Z415706	043	482	350	8	2	2	1	1	2	1	2	2	1	1
52055	3J35K5R134179	044	494	350	8	2	3	1	1	2	1	2	2	1	1
52056	RH41C5A180009	023	275	360	8	2	2	1	1	2	2	1	2	1	1
52057	LH41C5R195114	022	227	225	6	2	1	1	1	2	2	1	2	1	1
52058	6D47S5Q219702	042	425	500	8	2	3	1	1	2	1	2	2	1	1
52059	5X11Z114643	031	349	171	6	2	2	1	1	2	2	2	1	1	1
52060	5R04Y134026	031	348	140	4	1	2	1	1	2	2	2	1	2	1
52061	TE31043976	570	570	097	4	1	2	2	1	2	2	2	1	2	2
52062	4B27C5L114449	041	414	231	6	2	2	1	1	2	2	2	2	1	1
52063	SS22C5R245016	021	210	360	8	2	2	1	1	2	2	2	2	1	1
52064	TE31035775	570	570	097	4	1	2	2	1	2	2	2	1	2	2
52065	VH41C5R250128	023	285	225	6	2	1	1	1	2	1	2	2	1	1
52066	2R47W5P205865	045	459	455	8	2	3	1	1	2	1	2	2	1	1
52067	5R12Z130098	031	349	171	6	2	2	1	1	2	1	2	1	1	1
52068	1C35H5Z445104	043	482	350	8	2	2	1	1	2	2	2	2	1	1
52069	4B17C5L114905	041	414	231	6	2	2	1	1	2	1	2	2	1	1
52070	1X69D5L148067	043	486	250	6	2	1	1	1	2	2	2	2	1	1
52071	A5A667A306943	010	112	258	6	2	1	1	1	2	1	2	2	2	1
52072	3352901292	640	641	097	4	1	5	2	1	2	2	1	2	2	1
52101	1X27D5L143908	043	486	250	6	2	1	1	1	2	2	2	2	1	1
52102	5X11Y180785	031	349	140	4	2	2	1	1	2	2	2	1	2	1
52103	SS22K5R189317	021	210	360	8	2	2	1	1	2	1	1	2	1	1
52104	1V11B5C101947	043	488	140	4	1	2	1	1	2	2	2	2	1	1
52105	4B17C5L113102	041	414	231	6	2	2	1	1	2	1	2	2	1	1
52106	2R49W5P188118	045	459	455	8	2	3	1	1	2	1	2	2	1	1
52107	5R04Z138307	031	348	171	6	2	2	1	1	2	1	2	1	1	1
52108	A5A667E250610	010	112	232	6	2	1	1	1	2	2	2	2	2	1
52109	6D47S5Q251445	042	425	500	8	2	3	1	1	2	1	2	2	1	1
52110	1V05B5U204705	043	488	140	4	1	2	1	1	2	2	2	2	1	1
52111	VH41C5B278103	023	285	225	6	2	1	1	1	2	2	2	2	1	1
52112	WH23G5G155158	022	225	318	8	2	2	1	1	2	1	2	2	1	1
62000	HH45G6B188468	023	287	318	8	2	2	1	1	2	1	2	2	1	1
62001	6X10Y159527	031	349	140	4	1	2	1	1	2	2	2	1	1	1
62002	6R12Y116323	031	349	140	4	1	2	1	1	2	2	2	1	1	1
62003	VL41C6F139005	023	285	225	6	2	1	1	1	2	1	2	2	1	1
62101	1X27Q6L128487	043	486	305	8	2	2	1	1	2	1	2	2	1	1

TABLE 5.4-1 (CONT'D) - LISTING OF VEHICLES

1975 - 77 PORTLAND FAIL

EPA NO	VEH IDENT NO	MAKE	MODL	CID	C	T	F	EI	CA	CE	AC	EM	AS	CC	ES
62102	HH41G6F149932	023	287	318	8	2	2	1	1	2	1	2	2	1	1
62103	HP29C68229067	023	287	225	6	2	1	1	1	2	1	2	2	1	1
62104	6G30H184782	031	343	351	8	2	2	1	1	2	1	1	1	1	1
62105	VL29C6G197667	023	285	225	6	2	1	1	1	2	1	2	2	1	1
72000	VC24445M11980	600	600	130	4	1	5	1	1	2	2	2	2	1	1
72001	HL45D7G130778	023	287	225	6	2	2	1	1	2	2	2	1	1	1
72002	7K92F125024	031	347	302	8	2	2	1	1	2	1	2	2	1	1
72003	1773136765	590	591	097	4	1	1	2	1	2	2	2	1	1	1
72004	3J29R74262826	044	494	350	8	2	3	1	1	2	1	2	2	1	1
72005	HL45D78275979	023	287	225	6	2	2	1	1	2	2	2	1	1	1
72006	7W83F139127	031	342	302	8	2	2	1	1	2	2	2	2	1	1
72007	7K91L127319	031	347	250	6	2	1	1	1	2	2	2	1	1	1
72008	6H41K72700060	022	224	098	4	1	2	2	1	2	2	2	1	2	1
72009	3X37K7M283758	044	448	403	8	2	3	1	1	2	1	2	2	1	1
72010	1808E7Y107296	043	489	085	4	1	1	1	1	2	2	2	1	1	1
72011	1773222524	590	591	097	4	1	1	2	1	2	2	2	1	1	1
72012	1808E7Y105463	043	489	085	4	1	1	1	1	2	2	2	1	1	1
72013	3G37C7A297625	044	444	231	6	2	2	1	1	2	1	2	2	1	1
72014	1L35L7C144460	043	478	350	8	2	3	1	1	2	1	2	2	1	1
72015	1Q87D7L578229	043	439	250	6	2	1	1	1	2	2	2	2	1	1
72016	HL45G7G130112	023	287	318	8	2	2	1	1	2	2	2	1	1	1
72051	1N69U7C152377	043	472	305	8	2	2	1	1	2	2	2	2	1	1
72052	1773300260	590	591	097	4	1	1	2	1	2	2	2	1	1	1
72053	1X17D7W103402	043	486	250	6	2	1	1	1	2	2	2	2	1	1
72054	HP41U7G129204	023	287	225	6	2	2	1	1	2	1	2	1	1	1
72055	7J87H146339	031	372	351	8	2	2	1	1	2	2	2	2	1	1
72056	3M57R7M324107	044	494	350	8	2	3	1	1	2	1	2	2	1	1
72057	1808E7Y106581	043	489	085	4	1	1	1	1	2	2	2	1	1	1
72058	7P24478705584	023	272	122	4	1	2	2	1	2	2	2	1	2	1
72059	HH45D78332753	023	287	225	6	2	2	1	1	2	2	2	1	1	1
72060	7W38F534502	033	392	302	8	2	2	1	1	2	1	2	2	1	1
72061	1773336098	590	591	097	4	1	1	2	1	2	2	1	2	2	1
72062	4X69K7H573556	041	418	403	8	2	3	1	1	2	1	2	2	1	1
72063	7J87H165295	031	372	351	8	2	2	1	1	2	1	2	2	1	1
72064	7W82L221073	031	342	250	6	2	1	1	1	2	2	2	2	1	1
72065	4D29C7Z141803	041	417	231	6	2	2	1	1	2	1	2	2	1	1
72101	6H41K72700196	022	224	098	4	1	2	2	1	2	2	2	1	2	1
72102	3J57R7M297235	044	494	350	8	2	3	1	1	2	1	2	2	1	1
72103	3G37C7A312576	044	444	231	6	2	2	1	1	2	1	2	2	1	1
72104	3272096841	590	592	097	4	1	5	2	1	2	2	2	2	2	1
72105	4X69K7H524970	041	418	403	8	2	3	1	1	2	1	2	2	1	1
72106	7J87S110318	031	372	400	8	2	2	1	1	2	1	2	2	1	1
72107	1N69U7C152623	043	472	305	8	2	2	1	1	2	1	2	2	1	1
72108	VC24245M11077	600	600	130	4	1	5	1	1	2	2	2	2	1	1
72109	2L69Y7X141939	045	453	301	8	2	2	1	1	2	1	2	2	1	1
72110	3M35R7R193536	044	494	350	8	2	3	1	1	2	1	2	2	1	1
72111	NH45G7G180913	022	254	318	8	2	2	1	1	2	2	2	1	1	1
72112	7J63H182076	031	345	351	8	2	2	1	1	2	1	2	2	1	1
72113	HH45G7B354243	023	287	318	8	2	2	1	1	2	1	2	1	1	1
72114	VC24245M11122	600	600	130	4	1	5	1	1	2	2	2	2	1	1
72115	1X17D7L138953	043	486	250	6	2	1	1	1	2	2	2	2	1	1
72116	7W82L244308	031	342	250	6	2	1	1	1	2	2	2	2	1	1
72117	537205967J7	590	594	097	4	1	1	2	1	2	2	2	1	1	1

From the 276 vehicles selected, the following were recruited and retested:

6 Month Retest - 258
9 Month Retest - 229
12 Month Retest - 229

5.4.3 TEST PROCEDURES

5.4.3.1 Test Sequencing

Upon completion of the owner interview which provided information for the Vehicle Maintenance Record, the vehicles were tested per the following sequence for each of the retests:

Idle Test at the HTS facility (Ref. para. 4.3.1)
Diagnostic Inspection (Ref. para. 4.3.2)
Federal Test Procedure (FTP) (Ref. para. 4.3.3 and 4.3.4)
Highway Fuel Economy Test (HFET) (Ref. para 4.3.6)
Propane Gain Checks (Ref. para. 4.3.10)

In addition, for the 12 month retest, an Idle Test at the DEQ test station (Ref. para. 4.3.1) was performed prior to the Idle Test at the HTS facility.

5.4.3.2 Repair and Retest Sequence

A limited number of vehicles (27) which failed the DEQ Idle Test as part of the 12 month retest were subjected to repair and a complete retest. The repairs were mainly performed at the HTS facility, but in some cases as determined by EPA, the repairs were the responsibility of the owner.

5.4.3.3 Shift Speeds and Horsepower Settings

The horsepower settings used for the FTP and HFET, and the shift speeds used for vehicles with manual transmissions were the same as used for the Element III program. (Ref. document EPA 460/3-79-009)

5.4.4 TEST RESULTS

5.4.4.1 Deterioration Study Test Results

In order to provide continuity of the data from the Element III program with the data obtained in the Test Group No. 3 and No. 4 efforts, the combined results are provided in this report.

The DEQ and HTS Idle Test results are provided in Appendix B. The Federal Test Procedure (FTP) and Highway Fuel Economy (HFET) results are provided in Appendix C.

Each of the appendices is divided into two groups which are identified as "Portland Pass" and "Portland Fail". Group selection for each vehicle was determined by the vehicle's pass/fail status during the initial DEQ inspection test.

Composites of all test results for the "Portland Pass" and "Portland Fail" groups are shown on Table 5.4-2.

Legend for Table 5.4-2

IDLE	- Idle Test	0	- Initial
FTP	- Federal Test Procedure	M	- After Maintenance
HFET	- Highway Fuel Economy Test	1	- 1st Retest (1-3 months after initial)
SEQ	- Sequence		
LOC	- Location	2	- 2nd Quarter
1ST	- Initial Idle Test	3	- 3rd Quarter
2500	- High Idle Test	4	- 4th Quarter
2ND	- Second Idle Test		

HC - Hydrocarbons (FTP & HFET - grams per mile; Idle - ppm hexane)

CO - Carbon Monoxide (FTP & HFET - grams per mile; Idle - percent)

NO_x - Oxides of Nitrogen (FTP & HFET - grams per mile; Idle - ppm)

NO_xC - Oxides of Nitrogen in grams per mile corrected for humidity

SD - Standard Deviation

QTY - Number of tests performed

MEAN ODOM - Average value of the odometer readings

TABLE 5.4-2 COMPOSITE OF TEST RESULTS

1975 - 77 PORTLAND PASS

			HC						CO						RPM				NOX					
			1ST		2500		2ND		1ST		2500		2ND		1ST		2ND		1ST		2500		2ND	
TEST	SEQ	LOC	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IDLE	0	DEQ	78	55	62	57	91	64	.4	.6	.3	.6	.3	.5	860	140	871	147						
		HTS	154	195	55	42	128	174	.4	.7	.2	.5	.3	.7	815	135	841	127	75	28	190	98	78	27
IDLE	1	DEQ	79	66	59	67	93	79	.6	.9	.3	.7	.5	.8	876	183	885	185						
		HTS	122	74	52	64	103	72	.4	.9	.3	.5	.4	.8	825	124	846	124	80	27	193	95	83	27
IDLE	2	HTS	170	186	61	126	138	161	.6	1.0	.3	.5	.5	1.0	824	137	845	127	83	28	202	105	87	29
IDLE	3	HTS	155	169	53	51	130	146	.6	1.1	.3	.7	.6	1.1	856	154	875	147	93	38	216	107	98	40
IDLE	4	DEQ	170	288	122	203	223	316	1.1	1.5	.6	.8	.9	1.5	881	170	882	167						
		HTS	198	376	94	282	162	319	.8	1.3	.3	.6	.8	1.4	850	145	877	173	78	32	181	89	82	33

		HC		CO		CO2		NOX		NOXC		MPG		MEAN	
		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	ODOM	QTY
FTP	0	1.31	.71	14.74	13.27	520.3	148.3	2.80	1.49	2.43	1.30	17.58	5.30	37019	180
FTP	1	1.21	.68	12.86	11.88	514.3	151.7	2.69	1.39	2.42	1.27	17.99	5.66	38751	170
FTP	2	1.50	1.18	16.37	14.76	520.3	157.5	2.55	1.40	2.45	1.30	17.60	5.52	42223	159
FTP	3	1.67	1.24	18.63	17.00	516.8	150.1	2.90	1.61	2.47	1.33	17.50	5.37	43774	137
FTP	4	1.97	2.52	19.76	18.12	516.4	148.3	2.91	1.40	2.59	1.28	17.42	5.31	46027	145
HFET	0	.41	.40	5.43	10.10	375.2	116.3	3.48	1.90			25.43	8.31	37019	180
HFET	1	.38	.37	4.45	9.99	366.4	112.7	3.36	1.76			26.11	8.45	38751	170
HFET	2	.46	.40	5.63	10.18	378.1	121.3	3.29	1.78			25.30	8.27	42223	159
HFET	3	.48	.48	6.26	11.72	375.6	114.0	3.69	2.08			25.18	7.97	43774	137
HFET	4	.64	1.49	5.62	10.72	274.2	114.3	3.66	1.83			25.36	8.14	46027	145

TABLE 5.4-2 (cont'd) COMPOSITE OF TEST RESULTS

1975 - 77 PORTLAND FAIL

			HC						CO						RPM				NOX					
			1ST		2500		2ND		1ST		2500		2ND		1st		2ND		1ST		2500		2ND	
TEST	SEQ	LOC	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IDLE	0	DEQ	300	285	150	136	319	287	3.9	2.5	1.3	1.6	3.7	2.4	905	198	911	197						
		HTS	357	336	139	197	326	302	3.2	2.6	.7	1.2	2.9	2.5	862	184	884	181	105	27	254	162	106	27
IDLE	M	DEQ	75	48	60	45	94	76	.3	.5	.4	.7	.3	.5	871	146	871	127						
		HTS	161	211	59	66	110	106	.2	.4	.2	.6	.2	.4	804	131	818	124	88	30	244	150	93	30
IDLE	1	DEQ	121	139	76	83	137	158	1.3	2.0	.6	1.2	1.2	2.0	890	181	900	184						
		HTS	150	131	63	53	139	136	.9	1.8	.5	1.0	.9	1.8	848	157	856	162	93	32	238	133	95	31
IDLE	2	HTS	200	262	63	62	183	241	.9	1.3	.4	.9	.9	1.3	848	145	864	146	99	34	269	160	104	32
IDLE	3	HTS	203	379	88	194	200	372	1.1	1.7	.4	.9	1.2	1.8	870	156	883	152	123	46	316	217	127	45
IDLE	4	DEQ	153	190	107	81	196	223	1.6	2.3	.9	1.2	1.6	2.2	885	167	884	150						
		HTS	182	238	76	68	166	214	1.4	2.0	.7	1.1	1.5	2.0	849	138	864	137	101	35	258	179	109	48

		HC		CO		CO2		NOX		NOXC		MPG		MEAN	
		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	ODOM	QTY
FTP	0	2.77	1.77	41.74	25.34	479.4	115.2	2.72	1.41	2.35	1.22	16.84	3.98	36380	113
FTP	M	1.54	.89	20.28	20.90	523.9	131.8	2.85	1.68	2.47	1.45	16.79	4.13	35915	107
FTP	1	1.68	1.21	24.65	27.36	502.1	120.0	2.70	1.46	2.45	1.35	17.18	4.27	37236	106
FTP	2	1.61	.99	23.01	21.84	507.8	120.8	2.52	1.23	2.44	1.21	17.07	4.18	40514	99
FTP	3	2.05	2.53	24.69	22.17	505.6	117.1	2.97	1.54	2.57	1.36	16.95	3.98	41665	92
FTP	4	2.08	2.02	27.35	24.29	504.7	119.8	2.83	1.29	2.47	1.12	16.86	3.99	44520	84
HFET	0	.83	.96	12.29	17.89	363.4	86.6	3.35	1.80			24.41	6.41	36380	113
HFET	M	.50	.55	8.37	16.65	379.7	100.2	3.42	2.03			24.17	6.65	35915	107
HFET	1	.50	.56	7.44	14.19	364.7	85.7	3.21	1.72			24.95	6.60	37236	106
HFET	2	.52	.59	7.94	16.32	375.2	90.0	3.13	1.64			24.29	6.53	40514	99
HFET	3	.78	2.14	8.58	16.80	375.6	87.4	3.79	2.36			24.10	6.30	41665	92
HFET	4	.66	.86	9.07	17.05	373.8	89.5	3.50	1.82			24.22	6.51	44520	84

5.4.4.2 Repair and Retest Test Results

The results of the final repair and test sequence performed on the twenty-seven (27) vehicles selected are presented in Tables 5.4-3, 5.4-4 and 5.4-5.

Table 5.4-3 contains the HTS & DEQ Idle Tests results and Table 5.4-4 contains the FTP and HFET results. Both of these tables also present the data from the twelve month retest for comparison to the after repair results.

Legend for Table 5.4-3

CO - Carbon Monoxide in Percent
HC - Hydrocarbon Emissions in ppm Hexane
RPM - Engine Idle RPM
NO_x - Oxides of Nitrogen in ppm
1ST - Initial Idle Test
2500 - High Idle Test
2ND - Second Idle Test
STA - Status (The three letters represent the DEQ Pass/Fail status for HC, CO and RPM respectively.)

Legend for Table 5.4-4

HC - Hydrocarbon Emissions in Grams per Mile
CO - Carbon Monoxide Emissions in Grams per Mile
CO_2 - Carbon Dioxide Emissions in Grams per Mile
NO_x - Oxides of Nitrogen (uncorrected) Emissions in Grams per Mile
NO_xC - Oxides of Nitrogen Emissions Corrected for Humidity in Grams per Mile
MPG - Miles per Gallon Calculated by the Carbon Balance Method

Table 5.4-5 provides a listing of the maintenance performed on each vehicle along with comments regarding the effectiveness of the final repairs relative to FTP emissions.

TABLE 5.4-3 DEQ & HTS IDLE TEST RESULTS

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
51058	145	115	175	3.8	1.5	3.6	1300	1300	PFF	200	100	190	3.7	1.6	3.8	120	170	120	1120	1180
51058	160	105	210	1.9	2.0	1.5	1000	1000	PPP	210	140	210	1.5	.5	1.8	130	200	130	880	880
51103	1650	480	2000	2.6	1.6	3.8	500	500	FFP	1900	220	2010	1.8	.0	2.0	100	290	100	520	510
51103	40	25	25	.0	.0	.0	650	650	PPP	50	20	30	.0	.0	.0	70	280	70	610	640
51113	2000	2000	2000	.1	.1	.1	700	700	FPP	2630	2910	2710	.3	.2	.2	100	160	100	820	850
51113	130	65	130	.1	.0	.1	900	900	PPP	130	30	100	.2	.2	.2	90	130	100	800	850
51116	640	230	885	.1	.1	.1	900	900	FPP	580	160	610	.0	.1	.0	40	150	40	830	830
51116	215	80	180	.1	.1	.1	900	900	PPP	240	30	130	.2	.0	.3	120	280	120	860	880
51118	150	150	390	5.7	4.9	5.4	700	700	FFP	190	50	140	6.7	1.0	5.2	90	280	90	760	750
51118	25	20	45	.0	.0	.0	700	700	PPP	30	20	20	.0	.0	.0	80	430	70	740	690
51119	205	115	250	5.7	1.0	5.6	700	700	PFP	190	80	220	5.5	.8	6.9	130	470	140	710	710
51119	170	75	185	.0	.0	.0	650	650	PPP	90	40	70	.0	.1	.1	100	300	110	740	740
51121	260	145	525	4.3	3.3	4.1	900	900	FFP	200	50	150	2.2	.5	1.8	120	190	120	850	960
51121	45	50	45	.0	.6	.0	1000	1000	PPP	80	30	60	.0	.0	.4	40	110	50	850	960
51124	125	120	130	2.6	3.2	2.4	650	650	PFP	130	50	110	2.6	1.2	2.2	130	270	140	640	660
51124	70	110	120	.3	2.2	.4	600	600	PPP	240	30	300	.3	.5	.5	100	160	120	580	600
52063	200	120	240	5.6	.2	5.8	600	600	FFP	190	10	210	5.1	.0	5.8	120	200	120	820	820
52063	130	35	103	1.9	.0	.7	800	900	PPP	90	10	100	.1	.0	.5	60	320	80	740	750
52064	1350	310	1540	.1	1.4	.1	950	900	FPP	1730	230	1530	.2	1.0	.2	40	180	40	910	920
52064	80	65	180	.6	2.0	.8	1000	1000	PPP	130	20	100	.3	1.0	.4	60	160	80	960	970
52065	270	200	410	8.8	3.8	8.0	850	850	FFP	200	170	260	6.6	3.2	7.5	170	420	160	810	780
52065	120	175	40	2.1	2.3	1.8	700	700	PPP	60	100	80	.3	1.3	.2	140	400	140	780	770
52069	100	45	275	2.2	.1	2.7	1200	1200	PFF	110	140	390	1.2	.0	1.8	120	100	140	1050	1190
52069	35	25	125	.0	.0	.0	1000	1050	PPP	40	60	30	.0	.0	.0	120	120	120	1030	1050
52103	105	45	115	3.2	.4	3.9	1150	1150	PFF	100	30	110	2.8	.5	3.3	170	500	170	1160	1090
52103	15	15	30	.0	.0	.0	780	780	PPP	30	20	30	.0	.0	.0	70	200	70	790	750
52109	435	130	460	1.5	1.0	2.1	825	825	FFP	890	120	550	1.6	1.2	2.9	100	170	110	740	780
52109	95	95	415	.0	.0	.2	450	450	PPP	120	40	140	.0	.6	.0	80	130	60	710	670

TABLE 5.4-3 DEQ & HTS IDLE TEST RESULTS

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
61058	165	115	190	1.8	.2	1.3	950	950	PFP	220	80	40	1.6	.2	.0	160	240	140	940	880
61058	85	75	195	.4	.2	.1	850	850	PPP	90	60	30	.2	.3	.0	120	220	100	840	780
61104	155	90	190	5.1	2.4	4.6	1000	1000	PFP	120	50	150	4.1	1.1	5.1	120	150	120	850	850
61104	70	30	30	1.3	.0	.1	800	800	PPP	30	30	30	.4	1.0	.4	110	130	100	750	770
71058	175	65	175	1.9	.1	1.7	800	800	PFP	180	30	150	1.7	.0	1.9	110	180	110	720	700
71058	20	20	30	.0	.0	.0	725	750	PPP	20	10	30	.0	.0	.0	50	100	50	680	670
71065	235	130	330	3.1	.6	2.8	825	900	FFP	270	180	300	3.9	.4	3.4	60	210	90	720	750
71065	105	165	110	.2	.1	.1	700	700	PPP	60	120	40	.0	.1	.0	80	260	80	760	720
71069	200	125	190	3.0	.9	2.4	950	950	PFP	210	50	150	2.1	.6	1.3	100	280	100	860	930
71069	55	60	145	.0	.0	.0	700	700	PPP	100	60	90	.0	.3	.0	40	380	40	760	750
71070	80	45	95	2.6	.5	2.6	1100	1100	PFP	90	30	80	1.8	.4	2.4	110	200	130	1080	1050
71070	85	40	90	1.3	.1	1.1	900	900	PPP	80	30	70	1.0	.2	1.1	120	180	140	950	980
71074	675	310	745	6.8	.4	6.6	800	800	FFP	610	250	610	5.2	.2	6.3	110	380	120	820	830
71074	145	205	155	.0	.1	.3	800	800	PPP	110	100	190	.0	.0	.1	60	100	70	780	750
71076	590	235	505	3.8	.1	2.8	800	800	FFP	460	160	430	2.6	.6	2.5	100	170	110	760	790
71076	120	135	115	.0	.2	.0	1050	1050	PPP	130	120	140	.0	.0	.2	60	120	70	710	710
71113	475	655	540	5.0	1.0	5.2	900	900	FFP	460	1060	520	5.1	.2	5.1	120	220	130	850	870
71113	130	65	130	.0	.0	.0	750	750	PPP	140	30	140	.0	.0	.0	100	240	100	840	810
71118	290	35	220	2.6	.0	1.7	1150	1000	FFP	220	60	220	1.4	.0	1.6	150	260	150	1200	1200
71118	75	295	75	.0	.0	.0	900	900	PPP	70	90	20	.0	.0	.5	90	100	90	710	800
71119	120	90	125	3.3	2.0	3.0	1100	1100	PFP	130	60	120	2.9	1.3	3.6	140	220	140	1120	1080
71119	70	60	69	1.8	.1	1.3	1100	1100	PPP	60	30	70	1.6	.5	2.0	70	110	100	1090	1050
72055	95	60	115	2.5	.1	2.2	1000	1000	PFP	110	30	90	1.9	.0	1.9	130	540	140	940	980
72055	65	35	85	.4	.0	.3	900	900	PPP	20	10	10	.0	.0	.0	80	320	90	900	970
72057	185	75	160	3.4	.2	3.2	900	900	FFP	220	60	190	2.0	.0	2.4	90	240	120	780	820
72057	20	60	25	.2	.1	.2	1000	1000	PPP	20	10	50	.0	.0	.0	80	220	110	980	1010

TABLE 5.4-4 FTP & HFET RESULTS

			FTP						HFET				
EPA NO	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
51058	800528	43949	1.76	33.01	340.9	1.63	1.47	22.3	.73	8.63	239.8	2.46	34.68
51058	800529	43949	1.81	16.27	331.6	2.17	2.09	24.4	.83	7.46	226.6	2.88	36.80
51103	800421	56453	3.76	23.15	582.0	6.54	5.72	14.1	.33	1.22	447.6	7.15	19.68
51103	800423	56571	.93	7.04	618.4	6.44	5.55	14.0	.11	.04	456.0	7.09	19.43
51113	800602	49084	26.30	8.99	295.7	2.66	2.39	22.6	16.72	3.80	207.5	3.56	33.27
51113	800603	49120	1.04	12.75	327.7	1.77	1.71	25.3	.04	.95	218.7	2.31	40.25
51116	800502	109943	5.48	5.77	769.9	5.53	4.93	11.1	1.22	2.17	551.7	9.48	15.87
51116	800506	109981	2.52	16.56	741.8	3.88	3.42	11.4	.94	2.50	574.9	5.33	15.24
51118	800519	28151	2.91	54.70	599.7	5.00	4.79	12.8	.57	8.62	450.2	6.44	19.05
51118	800521	28186	1.49	11.04	654.4	5.31	4.75	13.1	.31	2.94	511.8	7.48	17.14
51119	800424	49622	2.83	59.03	490.1	3.41	2.96	15.0	1.45	21.00	381.1	5.59	21.18
51119	800429	49659	2.23	20.91	486.8	2.57	2.24	16.8	.96	7.67	361.4	1.88	23.56
51121	800429	34827	2.64	54.20	567.3	2.93	2.56	13.4	.24	5.47	429.2	2.81	20.22
51121	800501	34867	1.65	30.87	597.7	2.09	2.02	13.6	.17	4.52	477.3	2.54	18.29
51124	800424	69937	1.97	39.25	506.6	1.33	1.18	15.4	.79	18.12	440.5	1.37	18.81
51124	800430	69978	1.98	23.11	504.1	1.50	1.32	16.2	.54	11.50	441.3	1.45	19.23
52063	800521	54711	3.38	72.40	674.3	2.10	2.22	11.1	.37	7.00	477.2	2.55	18.12
52063	800604	55079	1.61	22.83	684.9	2.92	2.61	12.2	.19	1.18	462.8	5.08	19.06
52064	800610	67753	4.07	17.51	350.4	1.95	1.78	22.7	1.05	6.60	232.5	3.05	36.02
52064	800611	67790	1.87	23.65	336.2	2.25	2.16	23.4	.88	8.95	209.1	2.90	39.25
52065	800529	88712	4.26	67.04	411.6	4.01	3.88	16.7	1.02	8.66	387.4	5.02	21.94
52065	800603	52065	3.04	34.67	486.7	4.48	4.31	16.1	.23	.79	368.4	5.45	23.94
52069	800602	79732	2.01	45.73	483.7	2.12	2.03	15.8	.16	3.24	341.8	2.74	25.53
52069	800603	79767	1.04	16.09	517.7	2.59	2.49	16.2	.09	.72	358.4	3.35	24.64
52103	800424	39578	1.44	15.70	696.8	3.23	2.83	12.2	.16	3.05	478.1	7.23	18.35
52103	800429	39578	.81	13.87	680.7	2.84	2.53	12.6	.13	2.18	464.5	5.39	18.93
52109	800604	66547	2.64	34.92	690.4	3.19	2.97	11.8	.44	4.18	500.8	3.06	17.43
52109	800609	66584	3.45	30.12	711.4	2.76	2.68	11.5	.35	2.47	539.6	2.97	16.28

TABLE 5.4-4 FTP & HFET RESULTS

			FTP						HFET				
EPA NO	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
61058	800521	40901	1.70	15.80	504.8	3.18	3.13	16.6	.31	1.24	409.9	3.57	21.48
61058	800606	41387	.86	6.08	468.5	3.48	3.19	18.4	.19	.25	375.3	3.18	23.57
61104	800530	20751	2.02	39.43	641.7	1.30	1.16	12.5	.33	3.21	508.3	1.63	17.24
61104	800602	20788	1.30	14.36	633.1	1.45	1.37	13.4	.25	2.10	473.0	1.39	18.59
71058	800505	39483	1.15	12.76	558.6	2.05	1.87	15.2	.08	.47	432.5	2.46	20.46
71058	800516	39869	.73	8.45	557.4	1.95	1.70	15.5	.06	.47	436.6	2.54	20.27
71065	800516	45278	2.90	38.93	577.8	3.12	2.90	13.7	.60	4.28	427.9	4.14	20.31
71065	800529	45352	1.65	13.18	578.9	3.76	3.60	14.7	.42	1.50	413.2	4.36	21.27
71069	800523	45732	.90	7.82	268.3	2.35	2.20	31.3	.33	.60	179.4	2.86	48.88
71069	800528	45776	.92	5.92	264.9	2.52	2.26	32.0	.38	.61	196.2	3.13	44.71
71070	800528	39498	1.48	8.99	334.6	3.10	2.97	25.1	.87	3.86	229.8	4.15	37.16
71070	800529	39535	1.37	6.58	340.1	3.34	3.04	25.0	.96	4.53	228.6	4.08	37.14
71074	800527	28112	2.35	33.44	455.8	2.32	2.22	17.2	.63	4.90	364.0	1.89	23.73
71074	800529	28148	1.49	12.90	473.7	2.21	2.15	17.8	.36	2.98	370.7	1.36	23.55
71076	800530	34913	3.15	39.86	469.9	1.88	1.83	16.3	1.28	16.48	360.9	1.42	22.69
71076	800602	34949	1.68	22.32	564.5	2.22	1.98	14.7	.57	9.24	409.5	1.40	20.83
71113	800604	44390	2.62	41.38	562.4	3.01	2.69	13.9	.62	2.44	427.3	4.45	20.48
71113	800606	44390	1.57	2.35	579.8	7.88	6.92	15.1	.18	.04	412.8	8.16	21.45
71118	800424	59906	1.90	37.76	565.0	5.13	4.48	14.1	.21	2.15	389.3	2.53	22.54
71118	800428	59941	1.59	14.90	580.7	2.35	2.18	14.6	.17	.50	392.0	1.58	22.55
71119	800429	20175	2.00	21.32	320.1	1.98	1.79	24.6	1.40	17.52	207.6	2.74	37.01
71119	800516	20291	1.83	12.56	325.8	2.09	1.95	25.2	1.17	9.08	205.6	2.99	39.67
72055	800508	53034	1.61	43.22	625.0	6.20	5.50	12.7	.18	2.36	415.9	7.71	21.11
72055	800512	53071	.95	19.09	613.9	5.77	5.63	13.7	.11	1.13	413.3	5.91	21.35
72057	800516	30590	.88	14.21	307.7	2.27	2.11	26.6	.18	2.13	240.6	2.33	36.27
72057	800610	31116	.50	7.16	309.4	2.57	2.47	27.5	.12	.48	230.2	2.88	38.34

TABLE 5.4-5 MAINTENANCE FOR FINAL RETEST

EPA NO.	REPAIRED BY	DEQ FAILURE	MAINTENANCE	COMMENTS
51058	HTS	CO	Adjusted Carburetor, Idle Speed, Timing and Dwell.	CO reduced by 50% and MPG increased by 10%.
51103	Service Sta.	HC/CO	Adjusted Carburetor	HC reduced 75% and CO reduced 70%. (Meets Federal Standards). NO_x high (EGR line Plugged).
51113	HTS	HC	Reconnected one Plug Wire and adjusted Idle Speed and Timing.	HC reduced 96%. (Meets Federal Standards). MPG increased by 12%.
51116	HTS	HC	Installed new Carburetor, EGR Vacuum Switch and Air Filter. Adjusted Idle Speed.	HC reduced 54% and NO_x 31%.
51118	HTS	HC/CO	Replaced Spark Plugs and Air Filter. Adjusted Carburator and Idle Speed.	HC reduced 49% and CO reduced 80%. (Meets Federal Standards).
51119	HTS	CO	Adjusted Carburetor, Idle Speed and Timing. Rerouted EGR Vacuum Hose.	CO reduced 65% and reduced NO_x 24%. MPG increased by 12%.
51121	HTS	HC/CO	Adjusted Carburetor and Idle Speed.	HC reduced 38% and CO reduced 43%.
51124	Owner	CO	Adjusted Carburetor.	CO reduced 41%.
52063	HTS	HC/CO	Adjusted Idle Speed, Timing, and Carburetor.	HC reduced 52% and CO reduced 68%.
52064	HTS	HC	Adjusted Idle Speed and Carburetor. Replaced Air Filter and reconnected two vacuum hoses.	HC reduced 54%.
52065	HTS	HC/CO	Adjusted Idle Speed, replaced Air Filter and rebuilt Carburetor.	HC reduced 29% and CO reduced 48%.

TABLE 5.4-5 (cont'd) MAINTENANCE FOR FINAL RETEST

EPA NO.	REPAIRED BY	DEQ FAILURE	MAINTENANCE	COMMENTS
52069	HTS	CO	Adjusted Idle Speed, Timing and Carburetor.	HC reduced 48% and CO reduced 65%.
52103	HTS	CO	Adjusted Carburetor and replaced TVS Switch.	Minor reduction of HC and CO. (Meets Federal Standards).
52109	HTS	HC/CO	Adjusted Carburetor.	No Improvement.
61058	Auto Dealer	CO	Adjusted Idle Speed, Timing and Carburetor. Replaced Oil Filter.	HC reduced 49% and CO reduced 62%. (Meets Federal Standards). MPG increased 11%.
61104	HTS	CO	Adjusted Idle Speed, Timing and Carburetor. Replaced Air Filter.	HC reduced 36% and CO reduced 64%. (Meets Federal Standards).
71058	Service Sta.	CO	Adjusted Idle Speed and Carburetor. Replaced Air and Oil Filters.	Vehicle met Federal Standards before and after repair.
71065	HTS	HC/CO	Adjusted Idle Speed and Carburetor.	HC reduced 43% and CO reduced 66%.
71069	HTS	CO	Adjusted Idle Speed and Carburetor.	Vehicle met Federal Standards before and after repair.
71070	HTS	CO	Adjusted Idle Speed and Air Injection System.	Vehicle met Federal Standards before and after repair.
71074	HTS	HC/CO	Adjusted Carburetor.	HC reduced 37% and CO reduced 61%. (Meets Federal Standards).
71076	HTS	HC/CO	Adjusted Idle Speed and Carburetor. Replaced Air Filter.	HC reduced 47% and CO reduced 44%.
71113	HTS	HC/CO	Adjusted Idle Speed and Carburetor. Replaced Distributor Cap and Rotor.	HC reduced 40% and CO reduced 94%. NO_x high. (EGR Valve inoperable).

TABLE 5.4-5 (cont'd) MAINTENANCE FOR FINAL RETEST

EPA NO.	REPAIRED BY	DEQ FAILURE	MAINTENANCE	COMMENTS
71118	HTS	HC/CO	Adjusted Timing and Carburetor. Repaired EGR System.	HC reduced 16%, CO reduced 61%. NO_x reduced 51%.
71119	Indep. Gar.	CO	Adjusted Idle Speed and Carburetor.	CO reduced 41%.
72055	HTS	CO	Adjusted Idle Speed and Carburetor.	HC reduced 41% and CO reduced 56%.
72057	Indep. Gar.	HC/CO	Adjusted Idle Speed, Timing and Carburetor. Replaced Spark Plugs and Air Filter.	Vehicle met Federal Standards before and after repair.

5.5 TEST GROUP NO. 7 - MECHANIC TRAINING EVALUATION

5.5.1 SUMMARY

The intention of this test group was to evaluate the effects of mechanic training on emission reductions achieved by motor vehicle inspection and maintenance (I/M) programs.

Through solicitations, EPA recruited fifteen (15) repair facilities that agreed to participate in a mechanics training program. The training program, developed by Colorado State University was a short course in emissions repairs.

To evaluate the effectiveness of the training a representative sample of 1974 - 77 model year Portland vehicles which had failed the DEQ inspection test were sent to these repair facilities before and after training. The vehicles were taken to the facilities by HTS personnel posing as the owners. The DEQ non-compliance inspection form was given to the repair facility along with instructions to perform those repairs necessary to pass the DEQ inspection.

The vehicles which were taken to the repair facilities after training were matched in make, engine size, and failure mode to those taken before the training was initiated. This effort was made to eliminate the variable of vehicle type from the before-training to after-training comparison.

Each vehicle was tested at the HTS facility before and after the repair. The testing consisted of an FTP, Highway Fuel Economy Test (HFET), Idle Test, Four Mode Idle Test, Two Mode Test, 50 MPH Cruise Test, Propane Gain Checks, and a complete diagnostic check.

After the retest of the repaired vehicle, further maintenance was performed by HTS personnel to restore the vehicle to manufacturer specification, if possible. The vehicle was then again retested per the FTP, HFET, and short tests specified above.

5.5.1 SUMMARY (Continued)

Forty-three (43) vehicles were recruited for the "Pre-mechanic Training" fleet and fifty-five (55) for the "Post-mechanic Training" fleet. The after repair FTP emissions reductions of hydrocarbons (HC) and carbon monoxide (CO) were substantially the same for the two fleets. The percent of reduction of HC and CO were as follows.

	Pre-mechanic Training	Post-mechanic Training
HC	42%	41%
CO	48%	42%

The restorative maintenance made an additional reduction of 2% for HC and 13% for CO for the pre-mechanic training fleet. The restorative maintenance for the post-mechanic training fleet improved the overall emission reductions by 8% for HC and 25% for CO. The improvement of the reductions for the post-mechanic training fleet was believed to be due to increased proficiency of the repair capability of the HTS diagnostic staff.

The total percent reduction of HC and CO after the restorative maintenance were as follows:

	Pre-mechanic Training	Post-mechanic Training
HC	44%	49%
CO	61%	67%

No significant change to fuel economy was noted after repairs were performed by the local facilities. After the restorative maintenance, an increase of 3-5% in miles per gallon was achieved for the FTP.

5.5.2 VEHICLE SELECTION

The selection of vehicles for the "Pre-mechanic Training" fleet was intended to provide a general representation of 1974-77 model year Portland area vehicles which would normally require emission related repairs at local repair facilities. The size of the fleet to be selected was limited due to timing constraints. The schedule for the mechanic training was fixed and the fleet size was the maximum that could be tested prior to the start of the course.

The "Post-mechanic Training" fleet was selected to match the recruited "Pre-mechanic Training" fleet. A match consisted of the same make and engine, and, if possible the same DEQ failure mode (e.g. failure of only hydrocarbons).

The 1975-77 vehicles were selected from vehicles previously tested under Contract No. 68-03-2513. The 1974 vehicles were selected from listings of vehicles generated from an updated Oregon Motor Vehicles Division (MVD) computer tape of registration information.

5.5.3 VEHICLE RECRUITMENT

Before being accepted for this test group, each recruited vehicle was first subjected to the DEQ Idle Test. If the vehicle passed the DEQ inspection test, the vehicle was immediately returned to the participant without further tests.

Forty-three (43) of the recruited vehicles were accepted for the pre-mechanic training phase. A listing of these vehicles is provided on Table 5.5-1.

Fifty-five (55) vehicles were accepted for the post-mechanic training phase. A listing of these vehicles is provided on Table 5.5-2. The greater number of tests reflects the effort to exactly match the make, engine, and DEQ failure mode of the pre-training vehicles, as well as the greater time available.

5.5.3 (Continued)

The incentives for recruitment included a U.S. Savings Bond (cash value $37.50), the use of a late model loan car, free repairs, purchase of the DEQ registration certificate, and a full tank of gas upon return of the participant's vehicle. The incentives were given only if the vehicle was accepted for the program.

The legend for Tables 5.5-1 and 5.5-2 is as follows:

CID - Cubic Inch Displacement
FS - Fuel Metering System
C - No. of Cylinders
WT - Inertia Weight
T - Transmission (1 = Manual, 2 = Automatic)
AS - Air System (1 = Yes, 2 = No)
CC - Catalytic Converter (1 = Yes, 2 = No)
EG - EGR System (1 = Yes, 2 = No)
AC - Air Conditioner (1 = Yes, 2 = No)
EI - Electronic Ignition (1 = Yes, 2 = No)
AHP - Actual Horsepower

TABLE 5.5-1 VEH IDENT INFORMATION (PRE-MECHANIC TRAINING)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	WT	T	AS	CC	EG	AC	EI	AHP
40601	3G37K4M111359	OLDS	CUTLA	350	4V	8	4500	2	2	2	1	1	2	14.0
40602	3G29K4M170661	OLDS	CUTLA	350	4V	8	4500	2	2	2	1	2	2	14.0
40901	2L39R4C102062	PONT	CATAL	400	4V	8	5000	2	2	2	2	1	2	14.7
41301	1Q87K4N100357	CHEV	CAMAR	350	4V	8	4500	2	2	2	1	2	1	14.0
41501	VH23C4G201484	PLYM	VALIA	225	1V	6	3500	2	2	2	1	2	1	12.3
41601	RH23G4G205778	PLYM	SATEL	318	2V	8	4500	2	2	2	1	1	1	14.0
42001	4H31F225858	FORD	TORIN	302	2V	8	4500	2	2	1	1	1	1	14.0
42002	4B31F180088	FORD	TORIN	302	2V	8	4500	2	2	2	1	1	2	14.0
51011	1D29H5Z442511	CHEV	MALIB	350	2V	8	4500	2	2	1	1	1	1	14.0
51016	1L69H5J127818	CHEV	IMPAL	350	2V	8	5000	2	2	1	1	2	1	14.7
51064	2K5755P229798	PONT	GR PX	400	4V	8	4500	2	2	1	1	1	1	14.0
51104	1L47H5J202179	CHEV	IMPAL	350	2V	8	5000	2	2	1	1	1	1	13.2
52011	1V15B5C128049	CHEV	VEGA	140	2V	4	3000	2	2	1	1	2	1	10.3
52018	1V15B5U171730	CHEV	VEGA	140	2V	4	3000	1	2	1	1	2	1	10.3
52019	VH29C5B207786	PLYM	VALIA	225	1V	6	3500	2	2	1	1	1	1	12.3
52057	LH41C5R195114	DODGE	DART	225	1V	6	3500	2	2	1	1	2	1	12.3
52058	6D4755Q219702	CAD	DEVLE	500	4V	8	5500	2	2	1	1	1	1	15.3
52111	VH41C5B278103	PLYM	VALIA	225	1V	6	3500	2	2	1	1	2	1	12.3
60112	2G37Z6P274580	PONT	LEMAN	400	4V	8	4500	2	2	1	1	1	1	14.0
60151	NP41G6F177491	DODGE	ASPEN	318	2V	8	4000	2	2	1	1	1	1	13.2
60434	NP41G6F209390	DODGE	ASPEN	318	2V	8	4000	2	2	1	1	1	1	13.2
60506	1X17DGL126329	CHEV	NOVA	250	1V	6	4000	2	2	1	1	2	1	13.2
60627	HH45G6B250181	PLYM	VOLAR	318	2V	8	4000	2	2	1	1	1	1	13.2
60645	1B0B16Y234131	CHEV	CHEVE	98	1V	4	2250	2	2	1	1	2	1	8.8
60663	1Q87L6L505030	CHEV	CAMAR	350	4V	8	4500	2	2	1	1	2	1	14.0
61000	1D37Q6Z423998	CHEV	MALIB	305	2V	8	4500	2	2	1	1	1	1	14.0
61002	1Y27Q6L129662	CHEV	NOVA	305	2V	8	4000	2	2	1	1	1	1	13.2
61005	VL41C6G166830	PLYM	VALIA	225	1V	6	4000	2	2	1	1	2	1	13.2
61006	HP29G6R118559	PLYM	VOLAR	318	2V	8	4000	2	2	1	1	1	1	13.2
61057	6W83L234977	FORD	GRANA	250	1V	6	4000	2	1	1	1	2	1	13.2
61106	6H24H174382	FORD	TORIN	351	2V	8	4500	2	1	1	1	1	1	14.0
62002	6R12Y116323	FORD	PINTO	140	2V	4	3000	1	1	1	1	2	1	10.3
62102	HH41G6F149932	PLYM	VOLAR	318	2V	8	4000	2	2	1	1	1	1	13.2
71008	1773225878	VOLKS	RABBI	97	FI	4	2250	1	2	2	1	1	2	7.3
71015	2J57Y7P247003	PONT	GR PX	301	2V	8	4500	2	2	1	1	1	1	10.8
71105	7X12Y138986	FORD	PINTO	140	2V	4	3000	2	2	1	1	2	1	10.3
71114	1H57U7Z482446	CHEV	MONTE	305	2V	8	4000	2	2	1	1	2	1	11.3
71120	7W34L525969	MERC	MONAR	250	2V	6	4000	2	2	1	1	2	1	13.2
71123	1X69D7W179762	CHEV	NOVA	250	1V	6	4000	2	2	1	1	2	1	10.3
72005	HL45D7B275979	PLYM	VOLAR	225	1V	6	4000	2	1	1	1	2	1	13.2
72007	7K91L127319	FORD	MAVER	250	1V	6	3000	2	1	1	1	2	1	13.2
72014	1L35L7C144460	CHEV	IMPAL	350	4V	8	4000	2	2	1	1	1	1	11.3
72111	NH45G7G180913	DODGE	ASPEN	318	2V	8	4000	2	1	1	1	2	1	13.2

TABLE 5.5-2 VEH IDENT INFORMATION (POST-MECHANIC TRAINING)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	WT	T	AS	CC	EG	AC	EI	AHP
40603	3J57K4M197946	OLDS	CUTLA	350	4V	8	4500	2	2	2	1	1	2	14.0
40604	3J57K4M111531	OLDS	CUTLA	350	4V	8	4500	2	2	2	1	1	2	14.0
40605	3H45K4M135403	OLDS	CUTLA	350	4V	8	4500	2	2	1	1	1	2	14.0
41502	VL41C4R321076	PLYM	VALIA	225	1V	6	3500	2	2	2	1	1	1	12.3
41503	VL29C4G201606	PLYM	DUSTR	225	1V	6	3500	2	2	2	1	2	1	12.3
42003	4G30F165448	FORD	TORIN	302	2V	8	4500	2	2	2	1	2	2	14.0
42004	004B31F182202	FORD	TORIN	302	2V	8	4500	2	2	2	1	1	2	14.0
42005	4G30F249223	FORD	TORIN	302	2V	8	4500	2	2	2	1	1	1	14.0
50259	1K69H5J117665	CHEV	BELAR	350	2V	8	5000	2	2	1	1	1	1	14.7
50281	VH23C5B193383	PLYM	VALIA	225	1V	6	3500	2	2	1	1	2	1	12.3
50288	2K57S5A102689	PONT	GR PX	400	4V	8	4500	2	2	1	1	1	1	14.0
50308	VL29C5B205094	PLYM	VALIA	225	1V	6	3500	2	2	1	1	2	1	12.3
50468	VP41C5R237688	PLYM	VALIA	225	1V	6	3500	2	2	1	1	2	1	12.3
51013	3J57K5M235735	OLDS	CUTLA	350	4V	8	5000	2	2	1	1	1	1	14.7
51055	RH23G5A142050	PLYM	FURY	318	2V	8	4500	2	2	1	1	1	1	14.0
52001	1X69D5L136032	CHEV	NOVA	250	1V	6	4000	2	2	1	1	2	1	13.2
60095	6X127180199	FORD	PINTO	140	2V	4	3000	1	1	1	1	2	1	10.3
60282	HH45G6B124490	PLYM	VOLAR	318	2V	8	4000	2	2	1	1	2	1	13.2
60302	HP29G6B423946	PLYM	VOLAR	318	2V	8	4000	2	2	1	1	2	1	13.2
60308	1L69V6J290374	CHEV	IMPAL	350	2V	8	5000	2	2	1	1	1	1	14.7
60342	LL41G6F110753	DODGE	DART	318	2V	8	4000	2	2	1	1	1	1	13.2
60371	1B08E64221211	CHEV	CHEVE	98	1V	4	2250	1	2	1	1	2	1	8.8
60385	1V77B6V216840	CHEV	VEGA	140	2V	4	3000	2	2	1	1	2	1	10.3
60388	NL41C6F302659	DODGE	ASPEN	225	1V	6	4000	2	2	1	1	2	1	13.2
60411	1D29Q6Z486442	CHEV	MALIB	305	2V	8	4500	2	2	1	1	1	1	14.0
60416	1Y17Q6L160222	CHEV	NOVA	305	2V	8	4000	2	2	1	1	2	1	13.2
60495	HP41C6F263526	PLYM	VOLAR	225	1V	6	4000	2	2	1	1	2	1	13.2
60507	NH45G6B365382	DODGE	ASPEN	318	2V	8	4000	2	2	1	1	2	1	13.2
60558	NP41G6F244661	DODGE	ASPEN	318	2V	8	4000	2	2	1	1	1	1	13.2
60568	6W82L192672	FORD	GRANA	250	1V	6	4000	2	1	1	1	2	1	13.2
60584	NH45C6B418881	DODGE	ASPEN	225	1V	6	4000	2	2	1	1	2	1	13.2
60601	6D49S6Q228529	CAD	DEVLE	500	4V	8	5500	2	2	1	1	1	1	15.3
60675	1B08E64214419	CHEV	CHEVE	98	1V	4	2250	1	2	1	1	2	1	8.8
60708	3J29R6M181181	OLDS	CUTLA	350	4V	8	5000	2	2	1	1	1	1	14.7
60722	NH45G6B406628	DODGE	ASPEN	318	2V	8	4000	2	2	1	1	1	1	13.2
61101	6X10Y135900	FORD	PINTO	140	2V	4	3000	1	2	1	1	2	1	10.3
61107	1D37Q6Z457556	CHEV	MALIB	305	2V	8	4500	2	2	1	1	1	1	14.0
61191	1Q87Q6L501514	CHEV	CAMAR	305	2V	8	4000	2	2	1	1	1	1	13.2
62105	VL29C6G197667	PLYM	VALIA	225	1V	6	4000	2	2	1	1	1	1	13.2
62201	NH41G6F194158	DODGE	ASPEN	318	1V	8	4000	2	2	1	1	2	1	13.2
66026	1V15B6U112088	CHEV	VEGA	140	2V	4	3000	2	2	1	1	2	1	10.3
70075	7W35L532652	MERC	MONAR	250	1V	6	4000	2	1	1	1	2	1	13.2
70135	HH45D76130567	PLYM	VOLAR	225	2V	6	4000	2	1	1	1	2	1	13.2
70141	1X27D7K123963	CHEV	NOVA	250	1V	6	4000	2	2	1	1	2	1	10.3
70156	7R12Y105800	FORD	PINTO	140	2V	4	3000	2	1	1	1	2	1	10.3

TABLE 5.5-2 VEH IDENT INFORMATION (POST-MECHANIC TRAINING)

EPA NO	VEH IDENT NO	MAKE	MODEL	CID	FS	C	WT	T	AS	CC	EG	AC	EI	AHP
70262	2L37Y7X137226	PONT	CATAL	301	2V	8	4500	2	2	1	1	1	1	10.8
70287	NL45D7G169077	DODGE	ASPEN	225	2V	6	4000	2	1	1	1	1	1	13.2
70398	7R02Y121551	FORD	MUSTA	140	2V	4	3000	2	1	1	1	2	1	10.3
70508	7W82L275834	FORD	GRANA	250	1V	6	4000	2	1	1	1	2	1	13.2
70626	7R12Y406775	FORD	PINTO	140	2V	4	3000	2	1	1	1	1	1	10.3
71001	HH45G7G144824	PLYM	VOLAR	318	2V	8	4000	2	3	1	1	1	1	13.2
72002	7K92F125024	FORD	MAVER	302	2V	8	4000	2	2	1	1	1	1	13.2
76012	1H57U7Z451811	CHEV	MONTE	305	2V	8	4000	2	2	1	1	1	1	11.3
76015	1N69L7C132524	CHEV	CAPRC	350	4V	8	4000	2	2	1	1	1	1	11.3
76023	1D37U7Z417278	CHEV	MALIB	305	2V	8	4000	2	2	1	1	1	1	11.3

5.5.4 TEST PROCEDURES

5.5.4.1 Initial Test Sequencing

Upon completion of the Idle Test at the DEQ test station (Ref. para. 4.3.1) and being accepted for this test group, each vehicle was tested per the following sequence of tests:

- Propane Gain Checks (Ref. para. 4.3.10)
- Idle Test at HTS Facility (Ref. para. 4.3.1)
- Federal Test Procedure (FTP) (Ref. para. 4.3.3 and 4.3.4)
- 50 MPH Cruise Test (Ref. para. 4.3.8)
- Highway Fuel Economy Test (HFET) (Ref. para 4.3.6)
- Four Mode Idle Test (Ref. para. 4.3.9)
- Two Mode Test (Ref. para. 4.3.7)
- Repeat of Propane Gain Checks
- Diagnostic Inspection

The two Propane Gain Checks were performed in three different conditions with the vehicle in neutral gear. The conditions were:

- with PCV valve in place,
- with PCV valve removed from its seat and drawing underhood air,
- with PCV valve in place and the fresh air hose in the induction (PCV) system removed at the air cleaner.

Vehicles with automatic transmissions were also checked in the Drive gear per the above three conditions.

5.5.4.2 Repair and Retest

Fifteen (15) repair facilities were selected by EPA to perform the maintenance to pass the DEQ inspection. The repair facilities were chosen based on enrollment of their mechanics in the EPA-sponsored mechanic training course.

5.5.4.2 (Continued)

The pre-training fleet of 43 vehicles were randomly taken to the selected repair facilities by HTS personnel posing as the actual owners of the vehicles. They were instructed to tell the mechanic to perform only the repairs necessary to pass the DEQ inspection.

In the post-training phase each repair facility was sent vehicles which matched those in the pre-training phase. A match was defined as a vehicle with the same make and engine and, if possible, the same DEQ failure mode. The same procedure of HTS personnel posing as the owner was used for the repair cycle.

After the repairs were made the vehicle was sent to the DEQ inspection station for an Idle Test. The vehicle was then retested per the sequence of tests specified for the initial test at the HTS facility.

5.5.4.3 Restorative Maintenance and Retest

Restorative maintenance was performed at the HTS facility on all vehicles in both fleets. The resotrative maintenance consisted of setting Dwell, Timing, Idle Speed and Idle Mixture to manufacturer specifications and, when required, the repair of the following systems:

- Ignition System
- Induction System
- EGR System
- Fuel System
- Air Injection System

After completing the required restorative maintenance a repeat of all tests specified for the initial test sequence was performed.

5.5.4.3 (Continued)

In many cases further restorative maintenance was necessary after reviewing final test results. Those cases included excessive FTP emissions, poor fuel economy, and/or drive-ability problems.

5.5.4.4 Shift Speeds and Horsepower Settings

The actual horsepower settings used for the FTP and Highway Fuel Economy Test (HFET) for each of the vehicles tested are shown on Tables 5.5-1 and 5.5-2.

The shift speeds for vehicles with manual transmissions were as follows:

EPA NO.	YR	MODEL	SHIFT SPEEDS
52018	1975	Vega	20, 30, 40
60095	1976	Pinto	10, 25, 35
60371	1976	Chevette	10, 25, 40
60675	1976	Chevette	10, 25, 40
61101	1976	Pinto	10, 25, 35
62002	1976	Pinto	10, 25, 35
71008	1977	Rabbit	15, 25, 40

5.5.4.5 Tire Pressure Checks

The tire pressure of all four wheels on each vehicle was checked and recorded after the soak period prior to the FTP. The temperature of the laboratory was also measured at that time.

Prior to returning the vehicle to the owner, the pressure of each tire was set to specification. This was accomplished a minimum of three hours after last operation of the vehicle.

5.5.5 TEST RESULTS

The test results for both fleets are provided on Tables 5.5-3 through 5.5-18. The contents for the tables are as follows:

	Pre-Mechanic Training	Post-Mechanic Training
DEQ & HTS Idle Tests	Table 5.5-3	Table 5.5-4
Two Mode & 50 MPH Cruise Tests	Table 5.5-5	Table 5.5-6
Four Mode Test	Table 5.5-7	Table 5.5-8
FTP & HFET	Table 5.5-9	Table 5.5-10
Diagnosis and Maintenance	Table 5.5-11	Table 5.5-12
Propane Gain Checks	Table 5.5-13	Table 5.5-14
Tire Pressure Checks	Table 5.5-15	Table 5.5-16
Composite of Test Results	Table 5.5-17	Table 5.5-18

The "Composite of Test Results" (Tables 5.5-17 and 5.5-18) provides the average mass emission results for the FTP and HFET for both fleets.

The legends for the tables are as follows:

Legend for Tables 5.5-3 through 5.5-8

EPA NO.	- Identification Number (1st digit represents vehicle model year)
S	- Test Sequence (1 = Initial, 2 = After Repair, 3-6 = After Restorative Maintenance)
1ST	- Initial Idle Test
2500	- High Idle Test
2ND	- Second Idle Test
HC	- Hydrocarbons in ppm (Measurements are in hexane for all readings except for "LAB" readings which are in total hydrocarbons.)
CO	- Carbon Monoxide in Percent
NO_x	- Oxides of Nitrogen in ppm
RPM	- Engine Idle RPM
LAB	- Laboratory Analyzers
GARAGE	- EPA-75 Garage Analyzer
STA	- Status (The three letters represent the DEQ Pass/Fail status for HC, CO and RPM respectively)

5.5.5 TEST RESULTS (Cont'd)

Legend for Tables 5.5-19 and 5.5-10

ODOM - Odometer reading at time of diagnostic inspection

HC - Hydrocarbon Emissions in grams per mile

CO - Carbon Monoxide Emissions in grams per mile

CO_2 - Carbon Dioxide Emissions in grams per mile

NO_x - Oxides of Nitrogen (uncorrected) Emissions in grams per mile

NO_xC - Oxides of Nitrogen Emissions corrected for humidity in grams per mile

MPG - Miles per gallon calculated by the Carbon Balance Method

Legend for Tables 5.5-11 and 5.5-12

DIAGNOSIS - Problems found during Diagnostic Inspection

FAILURE - DEQ reason for failure

FAC - Facility Repair Code
First digit represents typy of facility
1 - Independent Repair Garage
2 - Gasoline Service Station
3 - New Car Dealership
4 - Chain Store
Second digit is a unique identifier for a particular facility

REPAIRS - Actual repairs performed

COMMENTS - General comments relative to the effectiveness of the repairs as reflected by the FTP emission results.

Legend for Tables 5.5-13 and 5.5-14

DEC - Decrease in RPM N/A - Not Applicable

Legend for Tables 5.5-15 and 5.5-16

LF - Left Front LR - Left Rear

RF - Right Front RR - Right Rear

TEMP - Temperature in degrees Fahrenheit (^oF) at time "As Received" measurement performed

TABLE 5.5-3 DEQ & HTS IDLE TEST RESULTS (PRE-MECHANIC TRAINING)

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
40601 1	110	80	200	2.4	.2	2.5	800	800	PFP	100	30	110	1.3	.2	1.8	105	350	105	770	760
40601 2	90	40	245	1.2	.1	1.7	750	750	PPP	70	20	80	.4	.1	.8	100	380	120	710	790
40601 3										50	50	80	.3	.2	.2	100	310	100	810	820
40602 1	120	130	190	3.8	2.3	4.6	800	800	PFP	70	40	90	1.0	.4	.9	120	320	110	690	680
40602 2	65	40	145	.5	.3	.5	950	950	PPP	120	50	270	.3	.3	.4	70	230	70	900	920
40602 3										260	120	370	.2	.2	.3	60	140	50	700	730
40901 1	460	120	125	4.4	.5	4.1	600	600	FFP	400	850	540	1.6	.4	2.6	150	460	160	990	860
40901 2	150	65	245	.6	.7	1.1	800	800	PPP	120	50	190	.3	.3	.5	110	290	120	890	620
40901 3										100	30	100	.2	.2	.3	110	230	110	1170	1170
41301 1	135	140	150	2.6	5.1	2.1	700	700	PFP	160	80	140	1.1	1.4	1.1	110	160	110	650	680
41301 2	110	170	135	1.5	3.6	.9	700	710	PPP	210	90	200	.5	2.0	.6	70	120	70	680	710
41301 3										160	50	130	.7	1.2	.9	80	120	70	710	730
41501 1	175	115	220	5.9	2.0	5.8	800	800	PFP	90	80	110	1.5	.9	2.4	140	530	140	820	750
41501 2	45	85	55	.1	1.1	.2	800	800	PPP	140	50	90	.4	.5	.3	110	640	110	710	710
41501 3										80	60	110	.4	.5	.5	90	490	90	770	740
41601 1	1330	505	1160	6.2	3.6	5.8			FF	170	60	870	5.5	.9	4.6	160	270	150	860	450
41601 2	20	45	65	.1	.4	.2	800	800	PPP	80	40	60	.3	.8	.3	110	250	110	800	880
41601 3										60	20	60	.1	.1	.1	60	160	70	720	750
42001 1	160	55	200	4.4	.4	4.1	800	800	PFP	170	40	170	3.1	.2	3.8	110	310	120	740	760
42001 2	150	75	165	1.7	.4	1.5	650	700	PPP	120	40	120	.6	.1	.7	100	260	110	630	680
42001 3										130	60	90	.5	.3	.5	90	390	100	820	830
42002 1	185	145	155	4.0	.6	4.4	675	675	PFP	160	40	200	2.9	.2	3.7	120	200	130	650	680
42002 2	95	45	150	1.3	.1	1.7	700	750	PPP	140	50	130	.7	.2	.9	90	180	100	730	720
42002 3										100	60	70	.2	.3	.3	90	140	100	810	880
51011 1	280	195	290	1.4	2.1	1.2	850	850	FFP	340	120	270	.6	1.9	1.3	90	180	100	760	800
51011 2	120	55	70	.0	.2	.0	825	825	PPP	170	50	130	.0	.0	.0	70	160	80	770	840

TABLE 5.5-3 DEQ & HTS IDLE TEST RESULTS (PRE-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
51016	1	175	55	225	2.0	.2	2.2	800	800	FFP	200	50	170	1.6	.0	1.4	80	260	100	720	780
51016	2	75	20	20	1.2	.1	.0	650	650	PPP	90	20	100	.1	.1	.8	60	200	100	560	620
51016	3										60	30	40	.0	.0	.0	80	190	90	770	800
51064	1	180	45	120	.0	.0	.0	600	600	FPP	160	40	130	.0	.1	.1	60	160	50	560	580
51064	2	70	50	110	.0	.2	.0	900	900	PPP	80	30	50	.0	.0	.0	50	150	70	820	870
51064	3										100	30	90	.0	.0	.0	80	270	60	900	890
51104	1	145	130	215	1.6	2.2	1.9	950	1050	PFP	190	120	190	1.8	1.8	1.7	120	180	120	970	940
51104	2	140	100	140	1.4	2.0	1.0	1050	1050	PPP	130	50	130	.0	1.0	.5	120	200	120	860	950
51104	3										10	30	20	.0	.1	.0	100	160	160	740	610
51104	4										100	20	130	.4	.3	.0	100	180	100	820	820
51104	5										100	30	60	.0	1.0	.3	70	180	80	760	910
52011	1	255	140	315	1.0	.0	.5	1050	1050	FPP	310	170	360	1.9	.3	1.5	190	220	170	1080	1080
52011	2	155	55	105	.1	.0	.5	800	900	PPP	340	100	170	.4	.0	.2	100	120	80	910	910
52011	3										190	100	160	.0	.0	.0	150	130	140	720	740
52018	1	540	170	465	7.7	2.0	6.9	725	750	FFP	490	150	520	6.7	2.5	6.7	140	300	140	630	650
52018	2	35	35	220	.0	1.2	.0	600	600	PPP	30	10	30	.0	.0	.0	110	210	110	870	890
52018	3										120	80	140	.7	.9	.6	100	300	100	940	950
52018	4										220	140	180	.9	1.0	.7	80	310	90	810	820
52019	1	355	105	405	8.4	2.8	8.5	975	1200	FFP	250	100	280	7.8	1.1	7.8	150	800	160	940	1010
52019	2	180	90	80	.0	.0	.0	800	800	PPP	50	10	40	.0	.0	.0	110	530	120	810	840
52019	3										40	20	30	.0	.0	.0	130	530	130	750	760
52057	1	215	175	235	6.1	1.1	5.0	750	750	FFP	200	60	170	4.4	.2	4.7	160	620	160	760	770
52057	2	25	30	60	.0	.0	.0	600	600	PPP	50	20	20	.0	.0	.0	90	430	90	580	650
52057	3										70	60	30	.0	.0	.0	120	230	120	740	760
52058	1	400	140	560	4.1	1.4	5.9	800	700	FFP	500	130	500	4.4	1.4	4.5	130	230	140	640	600
52058	2	470	120	545	4.0	1.1	4.4	725	725	FFP	520	120	560	3.7	1.1	4.0	120	200	130	750	740
52058	3										410	90	320	1.0	.5	.9	100	180	110	840	870
52058	4										50	50	30	.1	.2	.1	110	140	120	780	830
52058	5										30	10	40	.2	.1	.3	110	130	120	690	770
52058	6										660	120	48	.7	.8	1.4	100	180	110	700	750

TABLE 5.5-3 DEQ & HTS IDLE TEST RESULTS (PRE-MECHANIC TRAINING)

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
52111 1	95	90	125	2.9	.1	2.7	950	950	PFP	100	40	110	2.8	.0	2.6	120	320	120	860	870
52111 2	100	95	100	2.0	.1	.8	850	850	PPP	50	60	40	.1	.1	.0	70	180	70	750	760
52111 3										30	30	20	.0	.0	.0	80	190	80	790	760
60112 1	220	80	235	4.9	2.6	4.5	800	800	FFP	730	90	710	6.2	.9	6.2	110	160	120	680	680
60112 2	30	30	35	.0	.4	.0	700	700	PPP	20	10	20	.0	.0	.0	80	140	80	860	770
60112 3										170	20	100	.0	.0	.0	90	180	90	860	870
60151 1	130	70	180	3.2	.2	3.3	1000	1000	PFP	130	60	140	3.2	.0	3.2	120	140	120	870	960
60151 2	40	55	45	.0	.0	.0	800	800	PPP	130	60	50	.0	.0	.0	70	160	80	740	780
60151 3										60	30	40	.0	.0	.0	80	130	90	750	770
60434 1	135	65	170	2.5	.1	1.6	1250	1000	PFF	200	40	130	1.1	.0	1.0	100	420	100	940	980
60434 2	65	50	70	.0	.0	.0	1050	1000	PPP	140	30	40	.0	.0	.0	90	260	100	930	1020
60434 3										70	30	50	.0	.0	.0	100	340	100	780	800
60506 1	165	60	175	1.5	.2	1.4	950	950	FFP	250	30	340	1.0	.0	1.0	80	200	100	850	880
60506 2	95	60	155	.0	.0	.0	900	900	PPP	100	20	80	.0	.0	.0	70	160	80	750	760
60506 3										210	50	190	.5	.0	.3	100	160	90	800	800
60627 1	460	135	475	2.5	.6	2.3	800	800	FFP	600	100	390	.9	.5	1.2	90	220	100	720	740
60645 1	555	195	790	8.1	1.2	6.5	800	800	FFP	90	40	120	.0	.0	.0	100	130	100	950	970
60645 2	60	45	135	.0	.0	.0	1050	1050	PPP	90	40	120	.0	.0	.0	100	130	100	950	970
60663 1	455	115	460	7.6	.2	7.5	800	800	FFP	450	90	380	7.3	.7	6.8	120	240	120	730	780
60663 2	25	15	20	.0	.0	.0	700	700	PPP	50	10	30	.0	.0	.0	60	120	70	640	670
60663 3										120	60	100	.0	.0	.0	90	250	100	810	820
61000 1	215	115	255	1.7	2.0	1.9	1100	1100	FFF	190	120	180	1.0	1.4	.7	120	250	130	1100	1140
61000 2	50	95	60	.0	1.2	.0	800	825	PPP	160	80	230	.0	.4	.1	100	230	120	820	940
61000 3										130	60	80	.0	.5	.0	100	290	120	790	980
61002 1	170	145	145	1.5	.0	1.1	1050	1050	PFP	200	50	100	.8	.0	.3	100	70	80	920	980
61002 2	25	40	55	.0	.0	.0	900	900	PPP	70	20	50	.0	.0	.0	100	240	90	800	820
61002 3										60	20	60	.0	.0	.0	100	220	110	890	960

TABLE 5.5-3 DEQ & HTS IDLE TEST RESULTS (PRE-MECHANIC TRAINING)

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
61005 1	215	135	290	2.3	.7	2.5			PF	540	190	310	2.2	.7	2.3	160	300	160	1060	1080
61005 2	30	20	30	.0	.0	.0	950	950	PPP	80	50	40	.3	.0	.0	140	230	120	920	920
61005 3										120	80	60	.2	.2	.0	120	260	120	750	760
61005 4										110	100	120	.0	.9	.0	110	230	120	740	740
61006 1	225	260	285	3.4	1.9	3.3	950	950	FFP	310	200	420	4.3	.1	3.7	120	140	120	860	880
61006 2	420	375	485	4.4	2.7	4.4	700	700	FFP	550	610	540	4.2	.1	4.2	120	180	130	770	770
61006 3										50	30	30	.2	.0	.0	70	80	70	700	790
61057 1	400	310	515	7.4	3.8	6.4	800	800	FFP	320	160	330	3.6	2.1	3.7	150	440	150	980	1010
61057 2	480	200	165	3.1	.5	.0	900	925	PPP	120	60	90	.0	.0	.0	20	100	20	870	880
61057 3										100	50	80	.0	.0	.0	110	180	80	850	850
61106 1	315	245	365	.0	.0	.0	900	900	FPP	390	140	310	.0	.0	.0	80	110	80	770	880
62002 1	285	285	360	3.5	2.1	3.4	500	550	FFP	530	210	700	2.0	3.2	1.3	100	210	100	860	820
62002 2	160	125	240	.0	2.3	.0	800	800	PPP	90	50	90	.0	1.3	.0	80	180	80	1000	1010
62002 3										90	90	100	.0	.9	.0	70	220	80	880	840
62002 4										60	80	50	.0	1.6	.0	80	260	80	860	840
62102 1	140	280	210	4.5	.5	4.3	900	900	FFP	90	50	100	2.5	.5	2.6	120	140	120	910	1060
62102 2	35	55	75	.3	.1	.3	1000	1000	PPP	60	40	60	.3	.1	.2	110	120	120	830	1040
62102 3										470	210	410	1.3	.5	1.6	80	140	100	780	780
71008 1	120	75	115	3.4	.7	3.4	1150	1150	PFP	120	80	110	4.9	2.5	3.1	150	320	160	1070	2050
71015 1	285	225	745	3.9	1.3	3.7	800	800	FFP	710	90	300	1.3	.0	4.7	120	190	130	600	640
71015 2	15	10	25	.0	.0	.0	700	700	PPP	20	10	30	.0	.0	.0	80	130	100	720	610
71015 3										130	20	130	.0	.0	.0	100	180	120	790	860
71015 4										130	30	140	.0	.0	.0	100	190	90	840	790
71105 1	135	110	230	3.1	2.8	3.0	1200	1200	PFP	110	200	130	.5	4.1	1.2	120	310	130	1030	1070
71105 2	25	75	25	.0	.7	.0	1200	1200	PPF	60	140	90	.1	2.5	.2	110	350	110	1130	1150
71105 3										100	170	100	.3	2.7	.3	80	350	100	990	1060
71105 4										30	100	30	.0	1.8	.0	100	400	100	1020	1020

TABLE 5.5-3 DEQ & HTS IDLE TEST RESULTS (PRE-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND
71114	1	235	170	345	2.9	.2	2.7	850	850	FFP	280	20	210	2.5	.0	2.1	100	130	100	790	820
71114	2	85	55	110	.0	.0	.0	700	700	PPP	100	10	60	.0	.0	.0	60	120	60	650	650
71114	3										110	30	90	.0	.0	.0	40	120	80	640	660
71120	1	265	615	360	1.2	.0	1.6	900	900	FFP	300	120	340	.5	.0	1.5	100	150	110	840	880
71120	2	270	340	135	.1	.0	.1	800	800	PPP	110	150	40	.0	.0	.1	90	240	90	780	800
71120	3										120	110	40	.0	.0	.0	90	130	100	740	740
71120	4										60	60	110	.1	.0	.1	40	180	50	810	810
71123	1	755	135	800	5.9	.4	5.7	700	700	FFP	680	90	530	5.7	.0	5.6	120	440	130	670	690
71123	2	240	70	250	3.2	.2	2.6	700	700	FFP	320	50	250	1.5	.0	2.3	80	110	80	750	780
71123	3										40	20	40	.0	.0	.0	80	120	80	900	900
71123	4										140	20	60	.0	.0	.0	50	100	80	770	780
72005	1	360	165	535	6.7	2.5	7.7	500	500	FFP	410	210	370	5.8	1.6	5.7	140	160	130	910	880
72005	2	45	85	35	.0	1.7	.0	700	700	PPP	120	110	50	.0	5.0	.0	80	120	80	730	760
72005	3										80	20	60	.0	.0	.0	110	730	120	860	850
72007	1	340	395	430	1.5	6.6	2.1	950	950	FFP	450	300	330	.9	6.3	1.0	120	340	120	870	880
72007	2	70	220	80	.1	2.4	.0	850	850	PPP	190	280	170	.0	6.3	.1	120	170	120	750	760
72007	3										60	160	60	.0	5.6	.0	60	140	80	590	590
72007	4										90	190	60	.0	.7	.0	110	110	110	870	860
72014	1	180	95	190	1.6	.1	1.7	800	800	PFP	230	30	220	2.0	.0	1.4	100	150	100	690	690
72014	2	25	30	30	.0	.0	.0	850	900	PPP	30	20	30	.0	.0	.0	80	120	80	790	830
72014	3										60	30	30	.0	.0	.0	80	130	100	680	660
72111	1	155	80	205	3.1	1.2	2.7	800	800	PFP	130	30	140	3.1	.1	2.5	110	160	120	740	770
72111	2	50	20	95	.1	.1	.1	800	800	PPP	80	20	40	.1	.0	.0	80	180	90	700	750
72111	3										40	10	40	.0	.0	.0	70	200	70	730	730

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
40603	1	90	120	160	2.4	6.8	2.7	850	850	PFP	110	140	100	2.8	6.2	2.2	130	190	130	660	670
40603	2	60	110	85	1.1	7.0	.8	800	800	PPP	30	120	50	.3	7.1	1.0	100	200	120	700	730
40603	3										60	50	50	.2	1.1	.8	80	320	120	780	870
40604	1	105	375	140	2.2	1.1	1.4	850	850	PFP	110	20	120	.9	.1	1.1	100	320	120	840	900
40604	2	55	60	120	1.0	.1	1.1	775	800	PPP	270	30	90	.7	.1	.9	100	280	100	830	870
40604	3										120	30	270	.5	.1	.5	80	310	60	780	800
40605	1	105	55	115	2.7	.3	2.1	700	750	PFP	80	20	80	2.2	.1	2.2	70	160	80	800	880
40605	2	50	85	275	.9	.3	1.0	750	750	PPP	50	10	40	.4	.1	.7	80	220	110	670	730
40605	3										110	30	160	.8	.2	.6	60	140	70	710	720
41502	1	90	55	105	2.7	.3	2.7	1100	1100	PFP	60	50	90	1.6	.3	2.7	200	900	190	1040	1090
41502	2	55	40	95	1.2	.3	1.5	950	950	PPP	30	40	30	.4	.3	.4	190	580	200	950	920
41502	3										50	50	50	.4	.2	.4	160	490	170	750	790
41503	1	120	45	205	4.1	.5	4.2	800	800	PFP	120	50	130	3.2	.3	3.4	160	760	160	760	760
41503	2	55	10	45	.3	.1	.1	800	800	PPP	20	20	50	.3	.2	.4	160	660	160	950	740
41503	3										40	20	40	.3	.2	.4	150	500	160	750	760
42003	1	210	100	295	4.7	2.8	4.2	650	650	PFP	160	20	140	2.9	.2	2.9	120	240	130	680	690
42003	2	130	110	200	.7	.3	.9	650	650	PPP	140	30	100	.6	.1	.7	100	210	100	630	620
42003	3										120	20	100	.3	.2	.1	100	300	100	800	800
42004	1	220	150	345	3.4	.2	3.4	800	800	PFP	200	50	190	3.8	.2	4.3	120	240	130	790	820
42004	2	90	55	120	1.5	.3	.9	1050	1050	PPP	70	20	80	1.2	.1	1.1	120	220	110	1020	1050
42004	3										180	50	190	.9	.2	.7	90	230	90	760	760
42004	4										140	90	140	.6	.3	.7	100	220	110	820	820
42005	1	135	250	500	2.2	3.4	2.6	900	900	PFP	130	100	140	2.5	1.1	3.1	90	260	100	790	810
42005	2	205	205	340	1.4	3.3	.7	700	725	PPP	370	80	180	.2	.7	.5	70	400	70	640	660
42005	3										80	50	60	.3	.4	.4	100	170	90	870	830

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
50259	1	155	115	340	2.6	2.3	2.4	1000	1000	FFP	80	50	80	.6	1.0	.9	110	180	120	930	910
50259	2	65	55	150	.1	2.1	.1	900	900	PPP	310	80	240	4.2	1.9	4.6	100	180	130	770	940
50259	3										30	20	30	.0	.0	.0	80	140	100	710	750
50281	1	110	110	110	1.6	1.1	1.4	750	750	PFP	100	90	80	.6	1.4	.1	170	950	150	740	680
50281	2	25	35	35	.0	.0	.0	900	900	PPP	20	30	20	.0	.1	.0	160	890	150	880	840
50281	3										20	30	20	.0	.0	.0	120	600	110	770	710
50288	1	270	100	280	3.5	1.4	4.0	1000	1000	FFP	370	60	360	3.7	.4	4.4	90	160	100	810	870
50288	2	175	80	165	.4	.5	.4	1000	1000	PPP	20	20	20	.0	.0	.0	130	350	130	1010	1050
50288	3										80	100	70	.0	.1	.0	100	180	100	850	830
50308	1	160	155	195	5.3	2.0	4.5	900	900	PFP	140	80	150	4.2	.8	4.1	160	800	160	920	930
50308	2	15	20	155	.0	.0	.1	800	800	PPP	70	20	10	.1	.0	.0	90	670	80	710	720
50308	3										60	30	20	.2	.0	.0	90	160	80	770	770
50308	4										80	40	80	.9	.1	.8	130	320	120	780	800
50468	1	195	170	200	6.4	2.6	5.1	725	725	PFP	160	90	150	4.6	1.0	4.5	80	370	90	700	740
50468	2	65	65	85	1.8	.2	1.4	1000	1150	PFP	60	20	60	.9	.0	.5	100	340	100	810	820
50468	3										60	20	30	.0	.1	.0	110	440	110	760	770
51013	1	1350	475	1315	3.7	.1	4.6	550	550	FFP	2870	490	1210	5.7	.4	3.1	150	350	120	680	700
51013	2	20	65	25	.1	.0	.0	900	900	PPP	30	350	20	.0	.0	.0	80	190	80	830	830
51013	3										190	30	190	.0	.0	.0	70	310	60	730	730
51013	4										190	510	130	.0	.0	.0	70	450	80	700	730
51055	1	110	70	55	3.3	.7	2.2	800	800	PFP	110	30	100	2.4	.0	2.9	80	220	90	760	790
51055	2	25	20	25	.0	.0	.0	900	900	PPP	10	50	10	.0	.0	.0	60	130	60	780	790
51055	3										40	30	20	.0	.0	.0	60	180	80	720	760
52001	1	20	25	355	.0	.0	1.9	1600	1050	FFP	170	80	120	5.0	1.3	3.7	140	460	140	1060	1080
52001	2	75	50	100	.0	.5	.0	1400	950	PPP	20	30	30	.0	.5	.0	80	450	100	760	790
52001	3										90	10	60	.0	.0	.0	110	70	110	890	900

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
60095 1	315	85	340	.0	1.9	.0	900	900	FPP	840	120	990	.0	4.6	.0	70	80	40	860	840
60095 3										40	10	10	.0	.0	.0	60	140	60	900	880
60282 1	320	435	205	.0	.1	.0	900	900	FPP	190	480	170	.0	.0	.0	140	150	140	1080	1060
60282 2	590	805	580	1.7	.3	1.4	1050	1050	FFP	760	490	560	.4	.0	.1	120	160	120	1070	1040
60282 3										30	10	60	.0	.0	.0	90	160	90	760	730
60302 1	465	430	635	5.8	.5	5.2	700	700	FFP	510	110	530	6.3	.1	6.8	140	180	140	1020	1020
60302 2	30	30	45	.0	.0	.0	900	900	PPP	120	20	50	.0	.1	.0	80	120	80	880	920
60302 3										30	30	30	.0	.0	.0	80	110	80	740	750
60308 1	230	90	290	1.9	1.2	2.7	800	800	FFP	210	60	170	1.5	.8	1.2	80	130	100	770	800
60308 2	70	35	80	.0	.0	.0	800	800	PPP	60	20	50	.0	.0	.0	70	110	80	700	720
60308 3										60	20	30	.0	.0	.0	90	140	80	790	820
60342 1	465	265	480	2.8	.4	3.2	950	950	FFP	420	160	570	2.0	.2	2.0	120	130	160	880	910
60342 2	80	20	140	.2	.0	.0	900	900	PPP	290	30	130	.0	.0	.0	80	100	90	790	860
60342 3										130	100	170	.0	.1	.1	90	110	80	890	810
60342 4										140	30	160	.1	.0	.1	100	200	100	980	950
60371 1	90	40	75	1.3	.1	1.6	1200	1220	PFF	100	30	100	.8	.1	1.3	120	270	130	1200	1220
60371 2	30	80	60	.0	1.7	.0	900	900	PPP	80	30	100	.0	.0	.0	110	260	130	1060	1060
60371 3										130	30	180	.0	.0	.0	100	290	110	820	830
60385 1	550	440	1050	9.0	.7	8.8	750	750	FFP	670	120	630	8.5	.6	8.5	160	160	160	670	680
60385 2	70	65	120	.4	.5	.1	750	750	PPP	90	30	80	.7	.3	.3	140	130	140	930	930
60385 3										130	80	110	.0	.2	.0	90	140	100	790	790
60388 1	295	115	445	9.3	1.9	9.5	800	800	FFP	350	60	280	10.6	.1	9.9	100	390	110	810	820
60388 2	80	45	80	.9	.1	.7	850	850	PPP	60	20	20	.0	.0	.0	70	220	70	770	780
60388 3										110	40	80	.4	.0	.0	90	470	80	800	760
60411 1	350	130	450	3.0	.8	3.0	800	850	FFP	440	60	280	2.4	.0	1.7	80	160	80	830	890
60411 2	60	50	70	.0	.0	.0	750	750	PPP	60	20	40	.0	.0	.0	40	180	60	620	670
60411 3										60	30	40	.0	.0	.0	80	190	90	880	910

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
60416	1	325	100	300	3.2	.7	2.1	1050	1050	FFP	170	50	200	1.1	.2	1.5	120	230	120	940	970
60416	2	130	100	150	.0	.0	.0	900	900	PPP	160	90	140	.0	.0	.0	60	150	70	780	780
60416	3										90	30	80	.0	.0	.0	70	230	70	870	870
60495	1	455	165	520	5.9	1.0	5.9	800	800	FFP	470	140	470	6.3	.3	5.9	150	450	160	900	890
60495	2	45	40	45	.0	.0	.0	800	800	PPP	40	20	30	.0	.0	.0	80	340	90	900	910
60495	3										80	50	120	.0	.0	.3	120	320	100	820	790
60507	1	190	105	245	3.7	.4	3.3	700	700	PFP	170	240	170	2.5	.1	2.6	120	150	120	580	570
60507	2	120	70	170	.4	.1	.1	650	650	PPP	120	160	40	.6	.1	.0	100	140	80	630	660
60507	3										60	140	30	.1	.1	.0	70	100	80	810	820
60558	1	735	310	970	3.4	.8	3.0	1000	1000	FFP	1230	320	890	2.2	.1	2.2	140	200	150	970	1030
60558	2	125	55	120	1.1	.1	.7	700	700	PPP	40	10	50	.1	.0	.1	100	260	140	690	680
60558	3										100	100	90	.0	.0	.0	120	170	130	760	800
60568	1	530	300	515	4.1	.9	3.1	800	800	FFP	780	120	800	7.3	.0	8.3	140	100	140	670	670
60568	2	150	75	185	.0	.0	.0	1050	1050	PPP	80	30	130	.0	.0	.1	170	200	180	850	870
60568	3										140	70	80	.0	.0	.0	150	90	140	790	800
60584	1	630	285	600	7.7	2.7	6.7	700	700	FFP	310	150	300	3.1	1.9	3.0	100	440	110	640	660
60584	2	65	60	90	.0	.2	.0	900	900	PPP	180	60	110	.2	.4	.2	120	600	120	810	830
60584	3										60	50	40	.0	.2	.0	100	220	100	760	770
60601	1	200	75	250	1.5	.7	1.9	750	750	FFP	410	50	320	1.6	.0	1.5	110	170	120	820	850
60601	2	235	55	285	.3	.0	.3	1000	1000	FPP	350	50	330	.6	.0	1.0	120	160	110	860	820
60601	3										150	20	120	.0	.0	.0	120	150	120	790	760
60601	4										370	60	350	.3	.2	.6	100	140	90	740	750
60675	1	235	100	300	5.3	.8	5.6	1100	1100	FFP	250	60	260	7.4	.6	7.1	140	300	140	1060	1080
60675	2	75	45	70	.0	.0	.0	850	850	PPP	80	10	60	.0	.0	.0	70	210	90	820	810
60675	3										30	10	30	.0	.0	.0	100	200	70	850	850

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST										
		HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
60708	1	825	300	1010	2.6	.1	2.8	700	700	FFP	1040	90	980	2.1	.1	2.3	100	330	110	650	680
60708	2	125	75	155	.0	.0	.0	950	950	PPP	130	10	130	.0	.0	.0	60	240	60	660	680
60708	3										120	100	80	.0	.0	.0	90	500	100	730	760
60722	1	320	940	505	3.5	.3	3.2	850	850	FFP	340	170	320	3.4	.0	3.4	130	180	130	800	820
60722	2	80	340	155	.0	.0	.0	850	850	PPP	320	460	140	.3	.0	.0	90	180	90	830	820
60722	3										80	20	20	.2	.0	.0	60	240	70	770	820
61101	1	65	45	45	2.0	.6	1.8	600	600	PFP	30	10	20	1.7	.0	.9	80	160	70	620	700
61101	2	25	15	35	.0	.0	.0	1000	1000	PPP	10	10	10	.0	.0	.0	60	140	60	970	940
61101	3										40	20	40	.0	.0	.0	50	140	50	850	830
61107	1	1800	500	1810	6.3	1.3	5.7	1000	1000	FFP	1370	230	1280	4.7	.4	4.8	80	130	80	800	870
61191	1	375	215	445	4.8	.3	4.9	600	600	FFP	410	70	310	2.8	.4	2.9	120	210	130	770	870
61191	2	220	60	200	.0	.0	.0	750	750	PPP	230	20	120	.0	.0	.0	90	190	90	570	620
61191	3										190	30	50	.0	.0	.0	80	200	100	810	850
62105	1	135	155	275	3.2	.8	5.2	1050	1050	PFP	230	40	250	5.9	.0	5.8	80	810	80	700	680
62105	2	70	60	145	.0	.5	.6	900	900	PPP	140	30	90	.0	.0	.0	50	420	40	580	580
62105	3										140	90	40	.0	.0	.0	50	220	50	640	640
62105	4										150	140	180	.4	.0	.4	60	210	90	640	630
62201	1	490	300	455	2.5	.7	1.5	600	600	FFP	320	150	230	.4	.0	.1	80	120	70	610	600
62201	2	75	165	65	1.4	.1	.7	850	850	PPP	80	270	30	.4	.0	.0	110	120	100	750	790
62201	3										80	130	30	.0	.0	.0	90	110	90	750	760
62201	4										80	40	60	.0	.0	.0	90	115	90	780	760
66026	1	175	395	270	5.4	2.4	4.8	750	750	PFP	170	100	190	6.7	1.8	6.9	100	110	100	770	740
66026	2	60	75	195	1.9	1.8	2.3	950	950	PFP	70	80	70	2.7	2.8	2.3	80	120	90	940	920
66026	3										160	100	140	.3	.5	.3	60	100	80	670	740

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

	DEQ IDLE TEST									HTS IDLE TEST										
	HC			CO			RPM			HC			CO			NOX			RPM	
EPA NO S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2500	2ND	1ST	2500
70075 1	860	185	850	9.5	1.1	8.8	700	700	FFP	810	150	750	8.6	1.2	8.7	140	590	140	720	750
70075 2	145	100	130	1.4	.1	1.0	800	800	PPP	120	20	130	.8	.0	1.5	120	360	140	810	840
70075 3										80	30	70	.4	.0	.5	100	590	100	810	820
70075 4										90	110	90	1.0	.0	.9	100	120	100	790	800
70135 1	145	75	300	3.0	.3	3.1	850	850	PFP	160	50	150	3.5	.2	2.5	130	760	140	830	840
70135 2	55	35	75	.0	.0	.0	700	700	PPP	50	20	20	.0	.0	.0	90	600	100	760	740
70135 3										80	40	40	.0	.0	.0	110	660	110	680	750
70141 1	475	125	510	6.1	.7	5.1	1050	1050	FFP	460	60	460	5.7	.2	5.7	100	170	100	1050	1060
70141 2	90	25	40	.8	.1	.5	900	900	PPP	90	10	80	2.3	.0	1.3	80	140	80	940	940
70141 3										40	20	30	.0	.0	.0	90	160	100	910	940
70156 1	160	110	145	.3	.4	.1	900	900	FPP	100	100	80	.1	1.3	.0	100	340	100	920	930
70156 2	60	60	45	.0	.0	.0	650	650	PPP	80	130	80	.0	.8	.0	70	290	90	810	920
70156 3										30	30	20	.0	.3	.0	100	180	100	1000	1000
70262 1	680	205	685	1.7	.0	1.9	700	700	FFP	790	120	760	2.6	.1	1.9	120	170	120	740	750
70262 2	145	95	125	.0	.0	.0	800	800	PPP	90	20	60	.0	.0	.0	100	220	110	820	810
70262 3										130	30	90	.0	.0	.0	90	170	120	730	770
70287 1	200	215	235	3.5	2.9	3.2	800	850	PFP	280	180	270	3.7	1.9	3.4	130	520	130	770	730
70287 2	150	165	210	.9	1.8	1.2	800	800	FPP	50	140	120	.0	1.9	.3	90	510	80	760	800
70287 3										70	110	50	.0	.7	.0	80	980	100	750	770
70398 1	395	205	425	8.4	3.6	7.1	900	900	FFP	350	120	340	8.7	2.1	8.4	140	200	140	940	970
70398 2	65	140	115	.0	1.6	.2	800	800	PPP	50	90	30	.0	1.9	.0	100	200	100	960	1000
70398 3										130	120	60	.0	.3	.0	80	390	110	960	1040
70508 1	450	330	585	6.0	.6	5.3	800	800	FFP	580	70	570	7.1	.1	7.1	120	660	120	820	830
70508 2	65	50	95	.0	.0	.0	900	900	PPP	50	20	30	.0	.0	.0	90	560	100	930	960
70508 3										10	0	10	.0	.0	.0	80	220	80	770	800

TABLE 5.5-4 DEQ & HTS IDLE TEST RESULTS (POST-MECHANIC TRAINING)

		DEQ IDLE TEST									HTS IDLE TEST									
		HC			CO			RPM			HC			CO			NOX		RPM	
EPA NO	S	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	STA	1ST	2500	2ND	1ST	2500	2ND	1ST	2ND	1ST	2500
70626	1	160	195	220	1.7	.3	1.8	800	800	PFP	200	270	190	1.7	.1	1.6	140	120	140	1070	1090
70626	2	140	160	225	.9	.3	.6	1000	1000	PPP	190	110	130	.6	.0	.5	120	120	110	1050	1060
70626	3										170	190	30	.2	.0	.0	100	130	100	980	1030
70626	4										50	100	30	.0	.0	.0	90	140	100	1010	1040
71001	1	295	560	370	.0	.0	.0	700	700	FPP	300	30	140	.0	.0	.0	50	190	60	610	630
71001	2	25	25	40	.0	.0	.0	800	800	PPP	40	0	30	.0	.0	.0	90	320	100	740	780
71001	3										40	10	40	.0	.0	.0	110	320	110	700	740
72002	1	945	460	1000	2.1	.6	2.1	700	700	FFP	1040	250	860	2.3	.6	1.9	120	760	110	840	820
72002	2	100	65	75	.0	.0	.0	1000	1000	PPP	60	120	60	.0	.4	.0	260	100	270	970	1000
72002	3										70	140	120	.0	.7	.4	130	100	80	1000	1050
72002	4										20	100	20	.1	.4	.0	140	110	130	1070	1010
76012	1	475	180	565	5.1	.2	5.2	750	750	FFP	530	60	470	5.5	.0	5.8	120	180	120	710	730
76012	2	75	40	215	.0	.0	.1	600	600	PPP	50	20	30	.0	.0	.0	70	150	70	600	600
76012	3										20	10	20	.0	.0	.0	80	140	100	650	720
76015	1	205	90	240	3.3	.1	2.8	900	900	PFP	170	30	120	2.3	.0	2.0	120	300	120	920	890
76015	2	40	20	35	.0	.0	.0	650	650	PPP	90	10	80	.0	.0	.0	70	310	70	680	730
76015	3										60	30	90	.0	.0	.1	60	160	80	750	760
76023	1	740	575	745	6.6	1.4	6.7	800	800	FFP	640	120	710	5.5	.5	6.5	130	200	140	750	790
76023	2	95	115	105	.0	.0	.0	800	800	PPP	120	70	90	.0	.0	.0	100	170	110	750	750
76023	3										110	30	50	.0	.0	.0	60	150	80	680	700

TABLE 5.5-5 TWO MODE & 50 MPH CRUISE TESTS (PRE-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
40601 1	1984	.1	1396	140	.1	1800	1.2	77	120	1.3	983	.1	1145	60	.1
40601 2	1558	.1	1163	100	.1	1298	.6	78	80	.6	944	.1	1011	60	.1
40601 3	1366	.1	836	100	.1	530	.1	64	60	.1	754	.1	786	60	.1
40602 1	1990	.1	1080	140	.2	4490	1.3	134	450	1.4	1173	.1	1690	70	.2
40602 2	1764	.1	1225	130	.1	5940	.2	89	550	.3	1051	.1	1723	70	.1
40602 3	1277	.1	1101	70	.1	2993	.1	68	300	.1	889	.1	419	40	.1
40901 1	1975	.1	1060	140	.2	6671	3.5	84	420	3.4	1519	.5	1461	80	.6
40901 2	1454	.1	791	110	.1	3620	.2	94	320	.2	1341	.3	1397	100	.4
40901 3	1415	.1	1085	90	.2	488	.1	169	30	.1	1170	.4	1043	60	.4
41301 1	2742	1.1	176	150	1.2	2534	1.6	54	170	1.6	2430	.9	413	110	1.0
41301 2	2099	.9	169	110	1.0	2639	.5	72	200	.5	1846	.9	336	90	.9
41301 3	3610	3.8	181	240	3.7	1372	.7	62	80	.8	2849	2.6	1015	160	2.8
41501 1	2509	.6	1827	160	.8	3370	3.9	89	170	3.8	2381	.9	2355	140	1.0
41501 2	1681	.3	2032	100	.3	1100	.2	102	100	.2	1353	.2	2498	70	.2
41501 3	1858	.6	1786	120	.6	1421	.6	90	80	.5	1534	.5	2368	100	.5
41601 1	971	2.8	351	200	2.8	9985	8.8	48	400	8.8	2207	.5	1992	130	.5
41601 2	2195	.9	1183	150	1.0	1757	.2	152	120	.2	1430	.1	1808	80	.2
41601 3	2259	1.0	1157	150	1.0	371	.1	121	50	.1	2121	.4	2206	120	.5
42001 1	898	.1	615	60	.1	2149	2.5	63	120	2.5	1115	.2	1171	70	.2
42001 2	913	.1	536	60	.1	1957	.8	58	190	1.0	1109	.2	1171	60	.2
42001 3	2088	.1	1166	150	.1	2256	.4	73	130	.4	1971	.1	2336	120	.1
42002 1	824	.1	421	50	.1	2553	2.7	80	120	2.5	460	.1	727	20	.1
42002 2	745	.2	531	40	.2	1176	.3	93	60	.4	570	.2	730	20	.2
42002 3	180	.1	351	180	.1	100	.3	92	100	.3	1877	.1	983	120	.2
51011 1	2014	2.0	166	130	2.0	2296	1.0	79	180	1.1	2265	2.3	515	140	2.3
51011 2	338	.1	150	20	.0	427	.0	75	40	.0	231	.0	481	20	.0

TABLE 5.5-5 TWO MODE & 50 MPH CRUISE TESTS (PRE-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
51016 1	613	.1	644	60	.2	2287	1.2	99	140	1.2	188	.1	1160	40	.1
51016 2	5470	.0	423	460	.1	3980	.0	79	360	.0	38	.0	724	20	.0
51016 3	176	.0	271	40	.0	243	.0	64	50	.0	133	.1	707	50	.0
51064 1	270	.0	669	60	.0	714	.0	77	120	.0	246	.0	510	40	.0
51064 2	218	.0	981	60	.0	2008	.0	532	180	.0	139	.0	1279	50	.0
51064 3	148	.0	465	20	.0	460	.0	79	60	.0	169	.0	403	20	.0
51104 1	2909	2.8	156	180	2.8	3520	2.4	134	250	2.3	2235	1.9	582	130	1.8
51104 2	2430	2.2	176	150	2.1	1662	.5	84	110	.5	1990	1.6	547	120	1.7
51104 3	2228	2.2	199	140	2.1	1081	.1	82	130	.2	2699	2.5	527	150	2.4
51104 4	644	.0	196	40	.0	509	.0	208	20	.0	2834	4.4	231	140	3.0
51104 5	405	.0	207	40	.0	411	.0	95	70	.0	1161	.7	685	80	.7
52011 1	421	.0	673	50	.0	2210	.8	142	200	.8	191	.0	1014	20	.0
52011 2	111	.0	353	30	.0	1051	.4	82	100	.4	75	.0	341	20	.0
52011 3	84	.0	351	10	.0	2614	.5	43	300	.4	145	.0	434	10	.0
52018 1	1066	.1	709	80	.2	4850	5.2	57	280	4.8	784	.0	1090	70	.0
52018 2	427	.0	513	30	.0	326	.0	120	20	.0	54	.0	591	20	.0
52018 3	677	.1	717	60	.1	1837	.8	84	140	.9	943	.0	961	80	.1
52018 4	1335	.1	834	70	.1	2406	.0	79	190	.0	540	.0	1157	40	.0
52019 1	582	.0	2156	60	.0	2785	3.8	141	170	3.2	231	.0	2318	40	.0
52019 2	329	.0	1855	60	.0	503	.0	184	90	.0	264	.0	2233	50	.0
52019 3	65	.0	1035	20	.0	191	.0	156	30	.0	75	.0	1526	20	.0
52057 1	454	.0	2460	50	.0	2094	2.4	107	90	2.3	289	.0	2498	40	.0
52057 2	255	.0	2071	50	.0	139	.0	141	40	.0	644	.0	2131	60	.0
52057 3	243	.0	744	50	.0	127	.0	159	50	.0	185	.0	629	40	.0
52058 1	3139	2.4	619	210	2.6	6361	4.0	82	460	4.0	1834	1.1	637	120	1.4
52058 2	2989	2.4	580	200	2.3	6130	3.8	97	420	3.7	1791	1.5	565	100	1.4
52058 3	1534	.2	612	100	.2	2989	.5	221	210	.6	745	.3	565	50	.4
52058 4	1415	.2	543	90	.2	2568	.2	197	170	.3	937	.5	20	60	.5
52058 5	463	.3	166	30	.2	647	.3	89	40	.4	246	.2	198	0	.2
52058 6	2228	.3	597	160	.4	6391	1.0	74	460	1.0	800	.2	584	60	.2

TABLE 5.5-5 TWO MODE & 50 MPH CRUISE TESTS (PRE-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
52111 1	310	.0	1192	50	.0	1962	1.9	104	110	2.0	209	.0	789	40	.0
52111 2	145	.0	1006	20	.0	200	.0	107	20	.0	158	.0	675	20	.0
52111 3	148	.0	1026	20	.0	112	.0	102	20	.0	143	.0	700	20	.0
60112 1	2109	2.2	605	140	2.3	6110	5.8	47	360	5.2	255	.0	522	40	.0
60112 2	65	.0	251	20	.0	160	.0	64	30	.0	26	.0	248	20	.0
60112 3	840	.7	665	70	.9	824	.0	60	100	.1	93	.0	618	20	.0
60151 1	638	.0	512	50	.0	2473	2.7	92	120	3.4	980	.0	495	60	.0
60151 2	215	.0	677	50	.0	280	.0	116	50	.0	322	.0	500	50	.0
60151 3	158	.0	429	20	.0	402	.0	75	70	.0	243	.0	391	20	.0
60434 1	742	.0	1514	100	.0	6379	.1	89	90	.2	815	.1	1753	80	.1
60434 2	427	.0	1385	50	.0	219	.0	140	30	.0	561	.0	1883	50	.0
60434 3	950	.0	806	110	.0	3069	.0	62	380	.0	393	.0	786	50	.0
60506 1	539	.0	1038	60	.0	3390	1.7	79	240	1.7	163	.0	739	40	.0
60506 2	120	.0	1080	40	.0	469	.0	216	80	.0	87	.0	542	30	.0
60506 3	167	.0	650	20	.0	2430	.8	75	170	.8	87	.0	349	20	.0
60627 1	2054	.2	565	150	.2	1454	2.0	84	360	2.1	815	.1	876	50	.1
60645 1	2839	.1	2497	200	.1	6160	5.9	134	400	5.6	843	.1	2151	60	.0
60645 2	1274	.1	1715	100	.0	610	.0	258	80	.0	491	.0	1753	50	.0
60663 1	662	.1	904	60	.3	3453	3.3	58	180	3.2	96	.0	1093	10	.0
60663 2	1277	1.2	243	80	1.2	283	.0	62	40	.0	295	.0	507	40	.0
60663 3	781	.3	776	100	.9	393	.0	84	60	.0	105	.0	1075	30	.0
61000 1	3240	1.6	1080	210	1.6	1161	.1	134	100	.2	307	.0	1514	50	.2
61000 2	2372	1.0	1026	170	1.0	702	.0	117	90	.0	234	.0	1405	40	.0
61000 3	2959	1.4	1080	200	1.5	3240	.5	134	230	.7	619	.5	1464	60	.6
61002 1	280	.0	533	30	.0	788	.3	38	60	.3	222	.0	934	20	.0
61002 2	393	.0	440	50	.0	478	.0	104	60	.0	607	.0	869	60	.0
61002 3	277	.0	409	40	.0	286	.0	68	40	.0	249	.0	757	20	.0

TABLE 5.5-5 TWO MODE & 50 MPH CRUISE TESTS (PRE-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
61005 1	3019	.6	761	220	.7	3109	.9	136	200	.8	800	.1	811	90	.1
61005 2	1366	.2	759	120	.3	344	.0	161	40	.0	582	.1	709	60	.1
61005 3	937	.1	761	100	.1	402	.0	229	60	.0	518	.0	754	60	.0
61005 4	310	.0	690	80	.1	145	.0	152	40	.0	653	.1	670	50	.1
61006 1	1470	.0	194	140	.1	5370	2.3	74	400	2.3	307	.1	458	30	.1
61006 2	1164	.0	204	120	.0	7311	3.7	52	420	3.5	518	.0	433	60	.0
61006 3	164	.0	130	20	.0	102	.0	75	20	.0	161	.0	292	40	.0
61057 1	4470	3.6	824	300	3.5	7111	5.8	114	460	5.2	2849	2.0	1840	180	2.0
61057 2	1115	.0	73	120	.0	518	.0	40	60	.0	399	.0	172	50	.0
61057 3	583	.0	85	80	.0	879	.3	68	90	.2	522	.0	187	60	.0
61106 1	794	.0	229	100	.0	2825	.0	64	370	.0	451	.0	348	60	.0
62002 1	3283	1.4	1691	200	1.4	4724	.3	65	440	.3	1078	.2	2032	70	.0
62002 2	1112	.8	438	80	.9	491	.0	82	60	.0	350	.0	702	50	.0
62002 3	931	.2	727	70	.1	653	.0	172	50	.0	629	.0	1193	50	.0
62002 4	1289	.3	470	80	.3	839	.2	39	60	.1	723	.1	1078	50	.1
62102 1	1629	.9	132	80	.9	1977	1.8	93	100	1.4	690	.5	222	40	.7
62102 2	1696	1.5	115	80	1.4	528	.2	93	30	.2	1109	1.0	200	50	1.0
62102 3	3540	.4	418	280	.4	4680	.8	82	360	.8	1531	.2	582	100	.2
71008 1	1922	.3	1786	100	.2	1849	2.0	120	70	1.9	1757	.4	2065	80	.4
71015 1	1170	.0	307	100	.0	1048	2.3	60	220	2.1	249	.0	449	20	.0
71015 2	62	.0	186	30	.0	133	.0	114	40	.0	38	.0	258	30	.0
71015 3	390	.0	538	60	.0	736	.0	80	110	.0	289	.0	795	30	.0
71015 4	527	.0	622	60	.0	1473	.0	99	160	.0	283	.0	761	50	.0
71105 1	2048	.3	1342	150	.3	2586	1.8	131	140	1.8	821	.6	1100	80	.7
71105 2	111	.0	517	30	.0	124	.0	101	30	.0	121	.0	192	10	.0
71105 3	111	.0	517	30	.0	124	.0	101	30	.0	133	.0	677	30	.0
71105 4	381	.2	715	60	.8	121	.0	88	20	.0	210	.0	1522	30	.0

TABLE 5.5-5 TWO MODE & 50 MPH CRUISE TESTS (PRE-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
71114 1	1739	.4	166	130	.6	3530	1.7	89	260	1.7	203	.0	268	40	.0
71114 2	1066	.2	174	90	.3	607	.0	62	80	.0	111	.0	303	20	.0
71114 3	1305	.5	139	100	.5	353	.0	92	40	.0	365	.1	241	50	.0
71120 1	1467	.0	68	120	.1	3573	1.4	55	220	1.5	197	.0	210	20	.0
71120 2	375	.0	73	40	.0	353	.0	60	30	.0	243	.0	274	20	.0
71120 3	2158	.6	67	230	.5	766	.0	69	120	.1	374	.0	333	60	.0
71120 4	1889	.3	88	200	.4	3443	.8	48	350	.8	216	.0	232	20	.0
71123 1	2020	.0	2168	180	.0	9982	5.3	59	640	4.6	225	.0	249	50	.0
71123 2	243	.0	220	20	.0	2623	1.1	40	190	1.2	106	.0	379	20	.0
71123 3	154	.0	207	20	.0	1858	.2	25	180	.2	158	.0	521	20	.0
71123 4	277	.0	300	40	.0	335	.0	133	40	.0	270	.0	512	30	.0
72005 1	3243	1.5	832	220	1.6	5524	4.8	93	280	4.6	3373	3.5	354	220	3.2
72005 2	2317	1.4	643	170	1.5	549	.0	53	40	.1	2699	3.0	302	200	3.0
72005 3	399	.0	2497	60	.1	530	.0	881	70	.1	530	.1	2276	50	.1
72007 1	4473	5.4	513	60	5.0	3913	1.1	254	80	1.0	4033	5.4	10	280	5.8
72007 2	4243	5.0	483	300	4.8	812	.1	277	80	.1	3513	4.5	730	220	4.2
72007 3	4433	5.1	73	330	4.8	3823	1.4	155	300	1.4	3653	4.5	90	260	4.3
72007 4	1665	.1	100	130	.1	399	.0	93	30	.0	1149	.1	272	70	.1
72014 1	167	.0	366	20	.0	1717	1.3	127	130	1.3	210	.0	376	20	.0
72014 2	96	.0	165	10	.0	136	.0	75	20	.0	38	.0	342	0	.0
72014 3	72	.0	160	10	.0	99	.0	63	10	.0	182	.0	334	20	.0
72111 1	696	.0	1375	70	.1	1962	1.4	83	100	1.3	158	.0	1437	20	.0
72111 2	426	.0	1105	60	.0	442	.1	67	60	.1	68	.0	1043	30	.0
72111 3	292	.0	861	50	.0	203	.0	106	40	.0	136	.0	1010	40	.0

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
40603 1	4343	7.8	922	260	7.2	1873	1.7	598	80	1.7	4623	7.1	192	230	6.7
40603 2	3813	5.9	125	240	6.2	647	.2	65	50	.2	3923	6.2	197	220	6.6
40603 3	1834	.3	897	100	.4	1743	.2	83	200	.2	2455	1.3	625	120	1.4
40604 1	1387	.1	983	70	.1	1155	.9	64	60	1.0	943	.1	926	40	.2
40604 2	1222	.1	914	70	.1	962	.6	80	70	.7	739	.1	984	40	.1
40604 3	1280	.1	810	80	.1	2094	.3	65	200	.3	757	.1	922	40	.1
40605 1	629	.1	501	30	.1	1571	2.2	78	70	2.1	947	.1	1519	40	.2
40605 2	922	.2	498	40	.2	451	.2	65	20	.2	916	.1	1497	50	.2
40605 3	1283	.1	715	80	.1	1742	.3	43	150	.3	870	.1	483	40	.2
41502 1	1944	.2	2094	130	.2	1861	1.8	153	90	1.9	1770	.2	2281	120	.2
41502 2	2048	.3	2104	140	.4	843	.4	171	60	.4	1595	.3	2137	100	.3
41502 3	1923	.3	2495	120	.4	1488	1.0	168	100	1.0	1378	.2	2495	100	.3
41503 1	1623	.1	2495	100	.1	3029	3.9	128	120	3.7	1271	.2	2495	70	.2
41503 2	1259	.1	2498	90	.1	525	.1	162	40	.2	332	.1	2498	60	.2
41503 3	1473	.1	2495	100	.1	613	.2	178	40	.3	1136	.1	2495	70	.1
42003 1	806	.1	329	60	.1	2308	2.8	53	150	2.6	503	.1	650	20	.0
42003 2	739	.1	354	60	.1	1893	.9	107	160	.8	641	.1	663	50	.1
42003 3	1439	.1	797	90	.1	1161	.7	87	60	.6	1109	.1	1051	60	.2
42004 1	1090	.1	660	90	.1	2537	2.9	65	150	2.8	800	.1	551	40	.2
42004 2	1075	.1	587	50	.1	1228	.7	101	50	.7	631	.2	928	30	.1
42004 3	2899	.1	729	180	.1	3790	2.3	66	230	2.0	2167	.2	1314	120	.2
42004 4	2192	.1	770	150	.1	2485	.5	80	190	.5	2078	.1	1728	120	.2
42005 1	3189	.4	1402	200	.5	2795	2.8	69	150	2.6	2473	.4	1882	150	.5
42005 2	3069	.5	1015	190	.6	2909	.6	74	200	.7	2559	.8	1661	140	.8
42005 3	2143	.2	216	130	.2	1693	.1	49	150	.2	1779	.4	592	100	.4

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
50259 1	2437	1.6	231	150	1.8	2489	1.2	59	140	1.3	2424	2.5	545	140	2.5
50259 2	2528	2.0	203	150	2.2	4900	4.5	54	220	4.3	2590	3.5	355	140	3.4
50259 3	329	.0	335	50	.0	417	.2	64	50	.2	469	.0	878	50	.1
50281 1	1078	.4	1188	70	.4	314	.0	93	20	.0	176	.0	1728	20	.0
50281 2	500	.1	1026	40	.1	179	.0	95	20	.0	754	.0	1771	70	.0
50281 3	356	.0	852	40	.1	109	.0	85	20	.0	164	.0	613	30	.1
50288 1	1662	.2	1137	70	.2	5470	4.1	87	330	3.8	136	.0	1020	40	.0
50288 2	1586	1.5	572	120	1.5	3280	1.8	82	180	1.4	258	.2	570	30	.2
50288 3	267	.0	365	40	.0	625	.0	96	100	.0	206	.0	617	50	.0
50308 1	2192	.1	2495	130	.2	3119	3.7	84	120	3.8	218	.0	2495	20	.0
50308 2	173	.0	2401	30	.0	57	.0	135	10	.0	96	.0	2498	20	.0
50308 3	234	.0	1683	30	.0	108	.0	123	10	.0	148	.0	1085	20	.0
50308 4	191	.0	1536	30	.0	264	.0	81	20	.0	191	.0	1073	20	.0
50468 1	1595	.1	1489	120	.1	2167	2.8	64	120	2.8	356	.0	1800	50	.0
50468 2	1464	.1	1509	110	.1	1298	.8	99	100	.8	381	.0	1984	60	.0
50468 3	304	.0	1310	20	.0	72	.0	110	10	.0	427	.0	1542	30	.0
51013 1	466	.0	1263	40	.0	9985	2.5	60	930	2.2	298	.0	1076	20	.0
51013 2	325	.0	462	60	.0	154	.0	46	40	.1	47	.0	687	20	.0
51013 3	225	.0	1950	60	.0	849	.0	123	110	.0	332	.0	2206	60	.0
51013 4	243	.0	958	20	.0	1121	.0	111	110	.0	356	.0	1516	30	.0
51055 1	353	.0	1417	40	.0	1873	2.5	105	100	2.3	87	.0	889	20	.0
51055 2	124	.0	1763	20	.0	99	.0	110	20	.0	112	.0	907	20	.0
51055 3	115	.0	1529	20	.0	75	.0	117	10	.0	81	.0	840	20	.0
52001 1	956	.0	1914	100	.0	2608	2.4	129	140	2.1	218	.0	2497	50	.1
52001 2	1558	.2	1387	130	.2	384	.0	95	40	.0	335	.0	2433	40	.0
52001 3	93	.0	260	0	.0	277	.0	231	0	.0	47	.0	1065	0	.0

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

		--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60095	1	1632	1.4	1567	110	1.2	2231	.0	110	380	.0	375	.1	2498	40	.1
60095	3	402	.0	784	50	.0	280	.0	76	40	.0	234	.0	1008	40	.0
60282	1	1812	.0	354	190	.0	1109	.0	117	160	.0	708	.0	411	60	.0
60282	2	1540	.0	393	150	.0	4090	.3	104	470	.3	439	.0	699	40	.0
60282	3	1892	.1	1451	150	.0	2620	.0	136	180	.0	368	.0	1192	20	.0
60302	1	818	.0	391	90	.0	7434	4.7	60	430	4.7	525	.0	391	30	.0
60302	2	148	.0	142	20	.0	298	.0	80	20	.0	344	.0	304	20	.0
60302	3	399	.0	143	40	.0	1081	.5	39	60	.7	298	.0	288	30	.0
60308	1	2678	1.5	162	170	1.4	3753	.8	40	360	.8	1253	.6	615	80	.6
60308	2	2030	.6	233	140	.7	953	.0	34	120	.1	179	.0	819	40	.0
60308	3	925	.2	162	90	.1	268	.0	130	40	.0	213	.0	765	20	.1
60342	1	2011	.1	252	140	.1	4974	1.5	60	380	1.3	818	.1	337	60	.1
60342	2	1194	.1	138	140	.0	4640	.1	76	550	.0	84	.0	208	40	.0
60342	3	1044	.1	128	100	.1	1207	.1	86	100	.1	280	.1	226	50	.0
60342	4	1182	.0	647	70	.0	2504	.5	51	140	.5	307	.1	836	30	.0
60371	1	2161	1.1	1355	140	1.0	2112	2.1	80	120	2.0	2543	2.0	1280	150	1.9
60371	2	2632	1.1	2368	180	.8	1335	.7	138	130	.7	2687	2.2	1912	170	2.0
60371	3	616	.0	2348	60	.0	463	.0	263	70	.0	301	.0	2299	40	.0
60385	1	2973	.1	359	180	.1	9985	7.5	35	640	6.7	2048	.3	491	100	.3
60385	2	433	.1	761	50	.1	2351	1.6	104	100	1.6	797	.1	562	70	.1
60385	3	1326	.1	667	90	.1	1158	.0	111	100	.1	1301	.1	956	80	.1
60388	1	833	.0	1701	60	.0	6060	8.1	34	250	7.1	157	.0	1656	20	.0
60388	2	283	.0	1456	40	.0	191	.0	163	40	.0	264	.0	1526	40	.0
60388	3	494	.0	2498	40	.0	818	.0	102	60	.1	255	.0	2498	30	.0
60411	1	671	.0	569	60	.0	4730	2.1	56	280	2.0	166	.0	1133	30	.0
60411	2	133	.0	409	30	.0	173	.0	85	30	.0	66	.0	1031	20	.0
60411	3	142	.0	493	30	.0	142	.0	58	20	.0	90	.0	1113	20	.0

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60416 1	708	.0	380	50	.1	3540	1.4	39	160	1.2	329	.0	624	20	.0
60416 2	359	.0	449	40	.0	870	.0	130	110	.0	142	.0	937	20	.0
60416 3	625	.1	554	60	.1	1696	.2	51	160	.2	179	.0	841	30	.0
60495 1	1791	.0	1060	140	.0	5670	3.6	99	350	3.4	668	.0	1668	60	.0
60495 2	601	.0	936	60	.0	249	.0	101	40	.0	353	.0	1461	40	.0
60495 3	778	.0	1362	60	.0	491	.0	90	40	.0	268	.0	1141	20	.0
60507 1	4240	.1	295	280	.1	9983	6.1	24	760	5.3	873	.1	410	70	.0
60507 2	925	.1	133	60	.0	2290	1.2	39	140	1.4	595	.0	348	50	.0
60507 3	494	.0	142	30	.1	947	.5	63	60	.6	433	.0	354	30	.1
60558 1	1604	.0	237	200	.0	6494	1.6	112	550	2.0	595	.0	446	50	.0
60558 2	616	.0	727	60	.0	1754	1.1	90	100	1.1	210	.0	705	30	.0
60558 3	1987	.0	215	200	.0	1473	.2	65	120	.1	702	.0	389	60	.0
60568 1	1415	.0	117	120	.0	7934	5.2	33	540	4.8	216	.0	327	20	.0
60568 2	485	.0	378	70	.0	668	.0	285	80	.0	209	.0	308	30	.0
60568 3	534	.0	350	60	.0	601	.2	181	60	.0	188	.0	410	0	.0
60584 1	2525	.3	2495	140	.2	4860	3.1	89	260	2.6	408	.1	2495	30	.1
60584 2	1451	.1	2498	120	.2	283	.0	117	40	.0	537	.0	2498	60	.0
60584 3	956	.0	837	70	.0	277	.0	112	20	.0	372	.0	648	30	.0
60601 1	674	.0	255	50	.0	3019	.5	71	260	.3	307	.0	477	40	.0
60601 2	1323	.2	310	100	.2	4210	1.5	69	250	1.6	114	.0	500	20	.0
60601 3	482	.0	2049	70	.0	1219	.0	153	170	.0	120	.0	2495	50	.0
60601 4	1305	.5	175	90	.5	2993	.1	68	300	.1	280	.1	354	20	.1
60675 1	1647	.2	1651	100	.2	4790	6.2	61	240	5.1	913	.3	923	60	.5
60675 2	1005	.0	1456	80	.1	546	.0	151	60	.0	1457	.1	1369	80	.1
60675 3	1023	.1	1496	60	.1	1442	1.1	39	90	1.2	821	.2	1078	40	.2

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

		--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60708	1	564	.0	1113	70	.0	2424	1.3	68	760	1.4	188	.0	2406	30	.0
60708	2	200	.0	1202	20	.0	1256	.0	69	180	.0	335	.0	2495	40	.0
60708	3	1372	.0	1434	170	.0	644	.0	86	90	.0	310	.0	1713	40	.0
60722	1	2375	.0	267	240	.0	4513	2.4	60	300	2.1	561	.0	459	60	.0
60722	2	2953	.0	279	30	.0	604	.0	73	60	.0	644	.0	426	50	.0
60722	3	197	.0	976	20	.0	66	.0	172	10	.0	219	.0	1621	20	.0
61101	1	111	.0	567	20	.0	255	.2	54	30	.2	472	.0	540	80	.0
61101	2	185	.0	445	50	.0	105	.0	76	40	.0	120	.0	467	40	.0
61101	3	631	.0	572	70	.0	876	.0	61	140	.0	371	.0	754	50	.0
61107	1	1062	.0	429	200	.2	9985	4.1	40	1350	3.8	182	.0	367	20	.0
61191	1	1176	.3	342	60	.2	4283	3.0	58	220	2.7	182	.0	832	10	.0
61191	2	222	.0	329	20	.0	353	.0	160	40	.0	179	.0	782	20	.0
61191	3	307	.0	467	40	.0	264	.0	74	40	.0	310	.0	1207	40	.0
62105	1															
62105	2	377	.0	2495	100	.0	980	.0	113	150	.0	231	.0	2495	70	.0
62105	3	1271	.1	968	100	.1	2228	1.5	64	100	1.5	1586	1.0	842	90	.9
62105	4	574	.0	867	50	.0	1038	.2	93	60	.2	580	.3	802	40	.3
62201	1	1044	.0	258	110	.0	1479	.1	34	140	.1	460	.0	440	60	.0
62201	2	420	.0	114	50	.0	537	.3	59	50	.5	295	.0	211	30	.0
62201	3	325	.0	176	40	.0	488	.0	74	60	.0	537	.0	101	50	.0
62201	4	206	.0	115	20	.0	295	.0	73	40	.0	341	.0	239	20	.0
66026	1	1903	2.2	257	70	2.2	3823	4.9	33	160	4.9	2060	2.5	152	100	2.3
66026	2	1659	2.4	289	60	2.2	1522	2.0	70	60	1.6	213	.5	361	20	.1
66026	3	2115	.1	624	120	.2	656	.3	114	160	.4	2311	.8	1013	140	.9

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
70075 1	2476	.3	1853	160	.2	8975	6.0	110	500	5.2	191	.0	2498	20	.0
70075 2	576	.0	1352	70	.0	1938	1.4	59	120	1.4	182	.0	355	30	.0
70075 3	580	.2	1255	70	.3	1093	.7	85	70	.7	268	.0	332	30	.0
70075 4	1231	.0	141	180	.0	1843	1.3	61	130	1.3	277	.0	335	60	.0
70135 1	686	.0	2495	80	.0	2140	1.3	201	130	1.6	188	.0	2495	40	.0
70135 2	377	.0	2495	70	.0	215	.0	173	50	.0	172	.0	2495	50	.0
70135 3	635	.1	2498	70	.1	167	.0	142	20	.0	130	.0	2498	20	.0
70141 1	678	.0	765	70	.0	7374	4.8	68	390	4.0	118	.0	210	20	.0
70141 2	255	.0	1006	20	.0	1246	1.5	85	60	1.2	102	.0	394	10	.0
70141 3	173	.0	551	10	.0	158	.0	142	10	.0	96	.0	342	10	.0
70156 1	1314	.2	1342	140	.4	1314	.6	234	90	.8	314	.0	1417	30	.0
70156 2	582	.0	1855	80	.0	267	.0	131	40	.0	292	.0	1830	40	.0
70156 3	390	.0	1469	60	.0	154	.0	88	20	.0	362	.0	1587	40	.0
70262 1	757	.0	419	60	.0	6264	1.5	85	560	1.6	151	.0	573	10	.0
70262 2	255	.0	441	30	.0	182	.0	140	20	.0	213	.0	548	20	.0
70262 3	191	.0	369	30	.0	310	.0	85	40	.0	176	.0	551	20	.0
70287 1	3900	1.5	2171	260	1.6	3860	2.6	129	180	2.8	3720	2.3	1531	220	2.3
70287 2	3463	1.5	2002	250	1.5	815	.0	142	120	.1	3193	2.5	1071	210	2.5
70287 3	2785	.2	2497	190	.2	540	.0	116	60	.0	463	.0	2497	50	.0
70398 1	2733	.2	1255	180	.2	6564	5.9	254	310	5.5	268	.0	1493	20	.0
70398 2	1537	.3	1920	140	.3	460	.0	186	50	.1	454	.1	1696	50	.1
70398 3	693	.0	2495	110	.0	561	.0	128	90	.1	307	.0	2495	60	.0
70508 1	1222	.0	2498	100	.0	4924	4.6	434	370	4.5	283	.0	2498	20	.0
70508 2	258	.0	2497	80	.0	322	.0	233	60	.0	151	.0	2497	40	.0
70508 3	418	.0	85	50	.0	115	.0	78	10	.0	203	.0	314	20	.0

TABLE 5.5-6 TWO MODE & 50 MPH CRUISE TESTS (POST-MECHANIC TRAINING)

	--TWO MODE (30 MPH)---					----TWO MODE (IDLE)----					-----50 MPH CRUISE-----				
	-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
70626 1	683	.0	923	80	.0	3360	2.3	86	170	2.3	325	.0	659	40	.0
70626 2	402	.0	434	40	.0	2042	1.0	150	120	1.5	283	.0	421	30	.0
70626 3	999	.0	701	100	.0	4350	4.1	49	200	3.6	179	.0	572	30	.0
70626 4	136	.0	323	20	.0	179	.0	71	20	.0	75	.0	213	20	.0
71001 1	5000	.0	1068	590	.0	1825	.0	57	220	.0	4370	.0	1240	400	.1
71001 2	96	.0	396	20	.0	176	.0	73	20	.0	118	.0	1111	10	.0
71001 3	940	.1	719	80	.1	613	.0	71	70	.0	84	.0	853	20	.0
72002 1	5630	.9	2495	480	1.2	9982	2.0	89	1000	1.7	3320	1.2	407	290	1.2
72002 2	1283	.2	196	160	.4	1464	.0	56	220	.0	3029	1.4	211	260	1.6
72002 3	3840	.9	213	340	1.0	1179	.0	223	130	.0	3490	1.6	450	260	1.6
72002 4	454	.0	329	60	.0	252	.0	112	20	.0	2614	.9	429	220	1.0
76012 1	873	.0	343	80	.0	8131	5.4	54	490	4.9	261	.0	604	50	.0
76012 2	289	.0	363	40	.0	1060	.1	21	140	.1	160	.0	587	30	.0
76012 3	206	.0	208	10	.0	203	.0	99	10	.0	322	.0	353	20	.0
76015 1	93	.0	873	50	.0	1243	.6	74	130	.7	59	.0	1232	40	.0
76015 2	60	.0	750	20	.0	421	.0	127	50	.0	203	.0	1161	20	.0
76015 3	121	.0	215	20	.0	1577	.6	50	120	.4	23	.0	406	20	.0
76023 1	809	.0	287	60	.0	7384	4.5	38	500	4.5	222	.0	488	20	.0
76023 2	549	.0	350	60	.0	638	.0	104	80	.0	705	.0	594	50	.0
76023 3	310	.0	373	50	.0	530	.0	44	70	.0	231	.0	634	40	.0

TABLE 5.5-7 FOUR MODE TEST (PRE-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
40601	1	1877	.7	64	100	.7	576	.1	415	60	.1	1662	.9	67	120	1.0	1699	.7	84	120	.8
40601	2	3073	.9	48	220	.9	962	.1	324	70	.1	1956	.9	68	150	.8	1849	1.0	65	130	1.0
40601	3	494	.1	57	50	.1	243	.1	293	50	.1	644	.1	54	80	.1	683	.1	54	60	.1
40602	1	3790	1.2	106	300	1.2	729	.2	296	60	.3	3810	1.1	82	280	1.1	1929	1.3	64	150	1.4
40602	2	5400	.2	116	540	.2	797	.1	288	100	.1	5810	.2	79	580	.3	3009	.2	97	300	.2
40602	3	7324	.1	43	800	.1	993	.1	162	80	.1	5814	.1	60	600	.1	3443	.1	63	300	.1
40901	1	7671	4.9	97	460	4.6	9291	.2	288	960	.2	7091	4.0	77	440	4.0	4390	3.8	106	350	3.6
40901	2	1791	.4	92	140	.4	638	.3	323	70	.3	3390	.2	84	350	.2	2559	.2	251	200	.1
40901	3	668	.2	211	50	.2	433	.4	261	40	.5	1029	.2	124	90	.2	1770	.1	535	120	.1
41301	1	2513	2.3	62	140	2.2	1714	1.3	116	80	1.4	2586	1.9	54	160	1.9	2580	1.8	62	180	1.8
41301	2	4300	1.8	79	360	1.7	2479	3.2	89	110	3.0	4970	1.3	44	500	1.3	3740	1.4	49	320	1.3
41301	3	1060	.8	79	80	.8	2929	3.8	94	120	3.9	1366	.7	59	110	.8	1510	.6	74	110	.6
41501	1	3470	3.6	79	170	3.3	2099	1.0	555	120	1.2	3610	4.1	72	190	3.8	3390	3.5	79	200	3.3
41501	2	1197	.2	90	70	.2	1069	.5	498	40	.6	1314	.2	80	120	.2	1314	.1	90	80	.1
41501	3	1332	.5	88	80	.5	1222	.6	603	100	.7	1522	.5	73	100	.6	1298	.2	107	100	.2
41601	1	7644	8.2	45	1260	8.1	289	.8	257	40	.8	5614	8.7	35	1300	8.6	5884	8.9	25	1250	8.9
41601	2	6504	.1	68	500	.1	778	.3	558	70	.2	2613	.2	122	250	.2	2013	.1	187	180	.1
41601	3	671	.1	92	70	.1	277	.1	293	40	.1	671	.1	82	60	.1	631	.1	84	60	.1
42001	1	3243	3.3	40	200	3.6	500	.2	227	40	.2	1996	1.9	55	120	2.0	2262	1.9	58	180	1.8
42001	2	2384	1.9	45	160	1.7	522	.2	220	40	.3	2069	.5	50	180	.6	2045	.5	65	180	.5
42001	3	2693	.2	53	250	.2	681	.2	342	60	.2	1409	.4	63	130	.4	1451	.3	85	120	.2
42002	1	2751	2.4	140	160	2.3	390	.1	197	20	.1	2614	2.7	60	160	2.6	3183	2.9	60	220	2.8
42002	2	2614	2.4	73	160	2.2	433	.1	142	20	.1	1289	.4	75	80	.4	1788	.4	80	120	.4
42002	3	1353	.2	82	120	.2	1341	.2	189	100	.2	1280	.3	89	90	.3	2085	.2	159	150	.2
51011	1	1210	.1	57	120	.0	1898	3.1	487	160	3.0	2865	1.6	62	200	1.6	2666	1.1	89	200	1.6
51011	2	956	.0	75	110	.0	191	.0	471	20	.0	271	.0	75	40	.0	167	.0	115	20	.0

TABLE 5.5-7 FOUR MODE TEST (PRE-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
51016	1	3870	3.7	77	200	3.4	356	.0	281	50	.1	2501	1.3	77	150	1.2	2614	1.2	107	180	1.2
51016	2	136	.0	62	30	.0	65	.0	191	20	.0	3890	6.6	57	200	5.5	9982	6.0	57	2000	6.0
51016	3	592	.0	47	80	.0	127	.0	174	30	.0	283	.0	64	60	.0	225	.0	79	50	.0
51064	1	674	.0	54	100	.0	163	.0	181	50	.0	149	.0	59	80	.0	249	.0	79	60	.0
51064	2	356	.0	92	60	.0	53	.0	358	40	.0	797	.3	54	120	.6	136	.0	72	50	.0
51064	3	399	.0	151	50	.0	99	.0	144	20	.0	255	.0	67	40	.0	111	.0	84	20	.0
51104	1	3159	1.7	64	170	1.7	2089	2.1	144	100	2.0	3310	2.1	77	180	2.1	3550	2.7	146	220	2.4
51104	2	806	.1	79	80	.1	1867	2.1	156	90	2.0	1607	.6	89	100	.7	2320	.5	273	180	.6
51104	3	1617	.0	89	200	.0	1739	1.9	159	100	1.8	693	.0	87	80	.1	784	.0	253	100	.0
51104	4	821	.0	66	60	.0	255	.0	166	10	.0	503	.1	61	20	.1	1188	.3	241	90	.1
51104	5	421	.0	75	70	.0	1773	2.1	155	80	2.2	329	.0	75	50	.0	629	.0	165	80	.0
52011	1	2439	.8	83	200	.8	705	.0	127	80	.0	2085	.6	85	200	.6	1803	.6	229	160	.8
52011	2	503	.0	99	80	.0	439	.0	106	80	.0	1265	.3	57	180	.3	1180	.4	209	120	.4
52011	3	509	.0	70	70	.0	855	.0	102	100	.0	1366	.1	30	150	.1	2721	.2	48	200	.3
52018	1	5320	5.3	49	300	4.8	959	.3	226	70	.3	4310	4.7	52	240	4.4	4200	4.5	47	240	4.3
52018	2	375	.0	60	40	.0	145	.0	157	20	.0	323	.0	83	30	.0	326	.0	80	30	.0
52018	3	2149	.5	124	160	.6	693	.1	226	60	.1	1929	.6	77	150	.7	1672	.5	67	120	.5
52018	4	1158	.0	61	110	.0	576	.2	206	40	.1	1617	.0	61	150	.0	1372	.0	56	160	.0
52019	1	4790	6.8	64	200	5.9	1539	1.2	694	100	1.3	5640	6.6	64	250	5.8	4550	7.0	62	260	6.0
52019	2	1112	.0	49	150	.0	151	.0	62	40	.0	1148	.0	37	170	.0	1161	.0	27	180	.0
52019	3	218	.0	104	50	.0	35	.0	590	20	.0	160	.0	94	30	.0	142	.0	231	30	.0
52057	1	2234	2.1	127	90	2.0	341	.0	538	20	0.0	2164	2.3	90	110	2.2	2449	2.4	112	140	2.2
52057	2	344	.0	74	60	.0	160	.0	492	40	.0	157	.0	390	40	.0	145	.0	126	40	.0
52057	3	225	.0	144	50	.0	393	.0	189	70	.0	136	.0	131	40	.0	120	.0	221	40	.0
52058	1	7151	4.1	59	520	4.0	3440	3.1	149	160	3.2	6431	4.3	67	460	4.2	5090	3.1	124	400	3.2
52058	2	6411	3.8	59	420	3.5	3220	3.0	131	150	3.0	6020	3.5	67	420	3.3	4730	3.0	106	350	2.8
52058	3	3740	.3	99	320	.3	781	.5	189	60	.6	3119	.7	101	220	.8	2039	.4	298	180	.5
52058	4	2406	.3	112	200	.3	1060	.7	152	60	.9	2088	.4	105	130	.5	1467	.2	703	110	.2
52058	5	537	.2	86	20	.2	203	.4	94	20	.3	791	.4	86	50	.4	907	.2	156	60	.2
52058	6	8511	.3	76	810	.3	1969	1.0	146	140	1.2	5870	1.0	56	420	1.2	3670	.6	163	270	.8

TABLE 5.5-7 FOUR MODE TEST (PRE-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
52111	1	1932	1.6	92	100	1.6	197	.0	273	50	.0	1929	1.5	74	120	1.6	2036	1.2	89	140	1.2
52111	2	106	.0	93	10	.0	112	.0	229	10	.0	139	.0	63	20	.0	102	.0	63	10	.0
52111	3	109	.0	58	20	.0	148	.0	217	20	.0	99	.0	63	20	.0	96	.0	58	20	.0
60112	1	9982	5.9	24	980	5.5	1739	1.3	134	120	1.6	9982	5.5	34	580	5.1	6971	5.8	32	420	5.6
60112	2	209	.0	54	40	.0	23	.0	136	20	.0	65	.0	64	30	.0	47	.0	64	20	.0
60112	3	289	.0	98	40	.0	44	.0	147	20	.0	252	.0	60	40	.0	99	.0	80	20	.0
60151	1	2565	2.6	89	120	2.5	714	.0	171	60	.0	2596	2.7	87	130	2.7	2568	2.4	101	160	2.5
60151	2	408	.0	77	60	.0	179	.0	156	50	.0	249	.0	82	60	.0	316	.0	109	60	.0
60151	3	928	.0	63	80	.0	678	.0	137	80	.0	644	.0	65	80	.0	344	.0	95	40	.0
60434	1	943	.3	74	100	.3	1219	.0	336	160	.0	668	.1	77	100	.2	552	.1	92	80	.1
60434	2	197	.0	135	30	.0	84	.0	366	20	.0	222	.0	95	30	.0	216	.0	135	20	.0
60434	3	3710	.0	57	450	.0	379	.0	241	60	.0	2670	.0	54	370	.0	2309	.0	54	280	.0
60506	1	3570	1.2	79	280	1.2	148	.0	261	40	.0	3400	1.8	69	220	1.8	2609	2.4	92	200	2.2
60506	2	546	.0	114	100	.0	32	.0	233	20	.0	414	.0	116	80	.0	154	.0	136	40	.0
60506	3	564	.0	45	80	.0	50	.0	172	20	.0	2614	1.0	38	200	1.0	1999	1.3	65	160	1.2
60627	1	5420	1.7	92	460	1.8	1626	.5	164	120	.6	4870	1.7	79	400	1.7	4790	1.1	104	400	1.2
60645	1	7961	6.9	39	480	6.6	909	.1	288	80	.0	4860	4.9	59	360	4.8	6270	5.6	47	480	5.2
60645	2	607	.0	111	80	.0	255	.0	209	40	.0	488	.0	114	80	.0	613	.0	221	100	.0
60663	1	3823	3.3	38	210	3.2	1583	1.3	210	70	1.5	3963	3.6	45	200	3.5	3243	3.5	53	230	3.5
60663	2	347	.0	59	40	.0	592	.9	164	50	1.0	249	.0	69	40	.0	218	.0	82	40	.0
60663	3	353	.0	62	60	.0	1372	1.5	216	80	1.5	292	.0	64	50	.0	215	.0	126	50	.0
61000	1	552	.0	134	70	.1	2256	1.3	276	100	1.4	668	.1	101	70	.1	619	.1	398	80	.0
61000	2	353	.0	85	50	.0	965	.3	247	50	.4	326	.0	102	50	.0	194	.0	327	20	.0
61000	3	1571	.2	206	120	.2	2281	1.0	365	120	1.2	2014	.2	92	150	.2	1984	.2	258	170	.2
61002	1	1528	.3	40	120	.4	518	.3	135	40	.3	788	.2	35	70	.2	1191	.2	137	150	.2
61002	2	549	.0	54	60	.0	301	.0	204	50	.0	402	.0	59	60	.0	215	.0	109	40	.0
61002	3	350	.0	93	50	.0	130	.0	167	20	.0	295	.0	68	40	.0	179	.0	147	30	.0

TABLE 5.5-7 FOUR MODE TEST (PRE-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
61005	1	3350	1.0	131	180	1.0	2069	.7	211	140	1.0	3219	.8	111	200	.9	3189	.4	423	250	.4
61005	2	301	.0	109	40	.0	745	.3	171	60	.3	295	.0	121	40	.0	371	.0	278	60	.0
61005	3	365	.0	84	60	.0	855	.3	179	70	.4	295	.0	87	50	.0	362	.0	221	60	.0
61005	4	5114	3.7	55	290	3.5	2073	.6	172	120	.7	206	.0	68	60	.0	167	.0	122	60	.0
61006	1	5320	2.7	116	390	2.6	4290	.1	82	460	.2	5530	1.9	62	480	2.1	4990	1.7	67	520	1.8
61006	2	7371	3.9	64	430	4.2	1339	.0	101	140	.0	7061	3.8	57	440	3.6	5000	3.9	89	330	3.8
61006	3	124	.0	90	40	.0	219	.0	95	40	.0	124	.0	78	30	.0	142	.0	115	30	.0
61057	1	7621	5.8	62	500	5.2	4790	4.5	243	300	4.4	7541	5.7	74	520	5.1	6581	5.7	84	500	5.2
61057	2	5034	2.6	50	380	2.5	1042	.0	40	80	.0	427	.0	35	60	.0	476	.0	83	70	.0
61057	3	717	.0	90	100	.0	558	.0	53	60	.0	537	.1	58	60	.1	252	.0	190	40	.0
61106	1	2642	.0	101	360	.0	867	.0	119	100	.0	2167	.0	62	300	.0	1653	.0	141	250	.0
62002	1	3323	.1	45	400	.1	3303	2.2	167	140	2.1	4814	.1	60	460	.1	3743	.1	40	420	.1
62002	2	830	.0	62	100	.0	1938	2.0	129	80	2.0	705	.0	67	90	.0	607	.0	59	80	.0
62002	3	1130	.0	60	130	.0	1476	.8	229	80	.8	941	.0	65	80	.0	1014	.0	60	120	.0
62002	4	968	.0	56	60	.0	2198	1.4	178	80	1.3	1228	.0	51	120	.0	986	.0	44	120	.0
62102	1	1558	1.7	85	70	1.7	488	.1	107	40	.1	1757	1.7	80	80	1.7	1773	1.5	95	100	1.4
62102	2	473	.2	86	20	.2	280	.1	112	20	.1	454	.1	100	30	.1	494	.1	125	40	.1
62102	3	5710	.7	84	560	.7	3189	.5	184	260	.6	4800	.6	79	440	.7	3334	.7	111	260	.7
71008	1	1656	1.9	80	70	1.8	546	.4	167	30	.4	1941	2.1	75	80	2.0	1962	2.1	70	80	2.1
71015	1	6884	.9	10	600	.8	812	.1	175	40	.1	3223	2.0	50	210	1.9	3063	1.7	65	230	1.5
71015	2	179	.0	59	50	.0	26	.0	116	30	.0	105	.0	79	40	.0	96	.0	99	40	.0
71015	3	616	.0	53	90	.0	179	.0	215	20	.0	537	.0	78	80	.0	258	.0	140	40	.0
71015	4	662	.0	76	100	.0	188	.0	221	40	.0	586	.0	89	90	.0	295	.0	206	60	.0
71105	1	1748	.5	77	100	.6	3510	2.8	236	200	2.5	2201	.7	79	140	.9	2284	.6	94	140	.7
71105	2	54	.0	18	0	.0	626	.4	65	30	.4	66	.0	18	10	.0	47	.0	25	10	.0
71105	3	218	.0	62	40	.0	280	.4	59	50	.4	127	.0	67	40	.0	120	.0	84	30	.0
71105	4	161	.0	70	20	.0	1779	1.7	259	100	1.6	314	.0	90	40	.0	154	.0	78	30	.0

TABLE 5.5-7 FOUR MODE TEST (PRE-MECHANIC TRAINING)

	----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
	----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
71114 1	4030	2.3	49	220	2.2	959	.7	109	70	.7	2809	1.4	59	180	1.5	2889	1.0	114	220	1.1
71114 2	475	.0	54	80	.0	185	.2	74	30	.2	298	.2	57	50	.0	212	.0	92	50	.0
71114 3	515	.0	52	60	.0	653	.6	82	50	.7	344	.0	59	40	.0	249	.0	77	30	.0
71120 1	2442	.3	40	160	.2	1008	.2	35	100	.2	4043	1.3	55	260	1.2	3443	1.4	229	240	1.3
71120 2	598	.0	98	60	.0	2093	.3	50	250	.3	393	.0	55	30	.0	314	.1	120	20	.1
71120 3	549	.0	114	80	.0	1831	.6	52	190	.6	448	.0	92	70	.0	264	.0	151	60	.0
71120 4	809	.1	15	100	.1	962	.2	28	120	.4	2461	.6	40	220	.6	3213	1.7	155	240	1.6
71123 1	9982	5.9	39	700	5.1	809	.0	490	90	.0	9982	5.7	34	640	5.0	7451	6.5	32	550	5.6
71123 2	3623	.1	20	500	.1	320	.0	155	40	.0	2507	.9	38	180	.9	2653	.5	48	240	.5
71123 3	15	.0	95	20	.0	118	.0	152	20	.0	127	.0	48	20	.0	96	.0	150	20	.0
71123 4	7091	1.6	21	600	1.5	705	.0	118	70	.0	757	.0	69	80	.0	576	.0	79	60	.0
72005 1	5074	3.8	60	250	3.3	4653	3.7	130	280	3.4	5614	4.9	53	310	4.4	4734	4.6	60	300	4.2
72005 2	849	.0	65	100	.0	2963	1.6	90	230	1.6	445	.0	48	50	.0	320	.0	83	30	.0
72005 3	852	.0	104	120	.0	390	.1	545	50	.1	387	.0	106	60	.0	335	.0	149	50	.0
72007 1	1711	.1	40	150	.1	5674	6.0	155	280	6.0	3813	.6	38	280	.6	3803	1.1	175	320	1.0
72007 2	1482	.0	73	180	.0	5344	5.1	150	260	4.7	956	.0	75	100	.0	561	.0	195	70	.0
72007 3	3173	.3	28	250	.2	5814	4.7	45	340	4.6	3973	1.1	43	380	1.2	3723	1.1	135	300	1.1
72007 4	473	.0	110	40	.0	1742	.1	83	120	.1	344	.0	100	30	.0	292	.0	483	20	.0
72014 1	2436	.9	90	160	.8	341	.0	289	20	.0	1950	1.0	88	130	.9	1932	1.2	122	150	.9
72014 2	151	.0	58	20	.0	75	.0	115	20	.0	75	.0	65	10	.0	69	.0	155	10	.0
72014 3	216	.0	53	20	.0	69	.0	127	20	.0	38	.0	65	10	.0	90	.0	93	10	.0
72111 1	2054	1.2	63	120	1.1	158	.0	381	20	.0	1971	.9	60	110	.9	2051	.5	68	150	.5
72111 2	362	.1	87	50	.1	56	.0	253	30	.0	261	.0	57	50	.0	243	.0	129	40	.0
72111 3	347	.0	62	60	.0	75	.0	370	30	.0	182	.0	74	40	.0	185	.0	94	40	.0

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
40603	1	1736	1.5	623	80	1.4	4223	7.9	959	160	7.3	2185	1.7	620	100	1.6	1886	1.1	852	100	1.1
40603	2	674	.2	65	40	.2	3213	5.9	85	130	6.2	708	.3	65	40	.5	898	.2	83	60	.2
40603	3	9995	.1	48	1200	.1	2078	.9	175	150	1.0	1268	.4	65	90	.4	1378	.4	73	100	.4
40604	1	1161	.9	69	60	.9	255	.1	288	20	.1	1164	.8	61	70	.8	1390	.9	79	70	.9
40604	2	1093	.4	65	70	.5	231	.1	317	20	.1	1084	.9	73	60	.8	1185	.8	85	70	.9
40604	3	2693	.2	93	200	.2	653	.1	289	60	.1	2563	.2	65	200	.2	1399	.2	80	120	.2
40605	1	1167	1.3	65	60	1.2	81	.1	205	20	.1	1607	1.8	68	70	1.6	1659	2.1	65	100	1.9
40605	2	549	.1	55	40	.1	176	.1	197	20	.1	470	.1	65	30	.1	797	.2	78	50	.2
40605	3	2201	.2	30	180	.2	457	.1	167	30	.2	1589	.4	40	150	.4	1109	.4	40	90	.4
41502	1	1409	1.0	176	70	.9	996	.2	557	60	.2	1952	1.6	136	100	1.7	1770	1.3	221	100	1.1
41502	2	509	.2	158	50	.2	1032	.3	549	60	.3	491	.2	138	50	.2	586	.1	191	50	.2
41502	3	1256	.8	181	80	.8	1158	.4	1484	80	.4	1470	1.0	156	100	1.1	1678	.7	263	100	.8
41503	1	2919	3.3	111	120	3.0	690	.2	734	40	.2	3099	3.7	86	130	3.5	3189	4.0	89	180	3.6
41503	2	454	.1	132	40	.1	353	.1	551	20	.2	726	.2	115	60	.2	824	.1	175	60	.1
41503	3	592	.2	168	40	.1	631	.2	674	40	.3	760	.3	128	60	.3	1075	.2	231	80	.2
42003	1	2002	2.0	53	130	1.9	283	.1	185	40	.1	2106	2.5	55	140	2.2	2803	3.4	58	220	3.1
42003	2	1610	.4	45	120	.4	378	.1	152	40	.1	1546	.4	115	120	.5	1904	.6	60	170	.7
42003	3	1852	1.1	68	100	1.0	711	.2	284	40	.3	772	.1	75	70	.1	1161	.1	95	80	.1
42004	1	9985	5.8	33	490	5.6	818	.1	205	50	.1	2574	2.9	55	150	2.7	3113	3.1	65	240	3.0
42004	2	1240	.8	84	60	.8	264	.1	283	20	.1	1357	.7	81	90	.5	2192	.7	171	120	.6
42004	3	9712	6.3	36	400	4.7	3990	.2	86	280	.2	3770	1.8	59	240	1.5	3460	2.0	76	220	1.7
42004	4	5924	2.9	45	420	2.7	1833	.2	195	140	.2	2231	.3	70	170	.3	2256	.2	110	170	.2
42005	1	2207	1.8	54	130	1.7	2014	.7	457	100	.8	2519	2.4	51	140	2.3	3270	2.1	79	200	1.9
42005	2	5090	.3	34	500	.3	2669	1.2	121	140	1.3	2619	.4	36	250	.5	2409	.2	41	170	.3
42005	3	4490	.1	29	500	.1	1372	.3	131	80	.4	3009	.1	36	270	.1	1877	.1	34	140	.1

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
50259	1	2100	.2	59	160	.3	1571	1.8	136	80	1.9	2357	1.2	59	140	1.3	2663	.9	106	190	.9
50259	2	4690	4.3	44	220	4.0	2119	2.2	99	80	2.3	4690	4.4	51	220	4.2	3940	4.6	59	260	4.4
50259	3	289	.0	79	50	.0	249	.0	141	40	.1	338	.1	56	50	.1	439	.0	84	60	.1
50281	1	445	.1	78	40	.1	1051	.6	578	70	.6	326	.0	122	30	.0	176	.0	80	40	.0
50281	2	488	.0	70	40	.0	555	.1	578	50	.1	265	.0	90	30	.0	252	.0	160	30	.0
50281	3	127	.0	60	20	.0	390	.1	426	40	.1	115	.0	68	20	.0	112	.0	95	20	.0
50288	1	4410	2.5	59	260	2.4	506	.1	214	60	.1	5150	4.0	57	320	3.8	3990	4.3	62	290	3.8
50288	2	5010	1.5	79	180	1.3	1182	2.0	236	80	1.8	2651	1.6	79	160	1.4	2635	1.9	171	180	1.6
50288	3	873	.0	86	120	.0	521	.0	143	60	.0	491	.0	89	80	.0	191	.0	193	50	.0
50308	1	2755	3.5	56	100	3.5	1672	.6	729	70	.8	3410	4.0	61	130	3.8	3209	4.0	64	170	4.0
50308	2	63	.0	60	10	.0	60	.0	419	20	.0	57	.0	85	10	.0	60	.0	73	20	.0
50308	3	93	.0	91	10	.0	87	.0	305	20	.0	81	.0	101	10	.0	75	.0	173	10	.0
50308	4	668	.2	71	50	.2	188	.0	186	30	.0	197	.0	71	30	.0	179	.0	113	20	.0
50468	1	2351	2.9	82	140	2.7	959	.3	869	70	.4	2253	2.9	64	140	2.8	2247	2.8	59	160	2.6
50468	2	1473	1.0	139	100	.9	1014	.2	487	100	.2	1451	.8	97	120	.8	1675	.8	121	130	.7
50468	3	466	.0	80	30	.0	240	.0	302	20	.0	234	.0	185	20	.0	148	.0	117	20	.0
51013	1	9725	1.8	25	790	1.8	3563	.1	334	390	.1	9985	2.8	30	1030	2.7	7294	3.1	30	500	3.1
51013	2	166	.0	66	40	.0	1562	.0	275	200	.0	188	.0	54	40	.0	124	.0	99	40	.0
51013	3	644	.0	86	100	.0	203	.0	343	50	.0	821	.0	54	120	.0	341	.0	94	60	.0
51013	4	686	.0	89	80	.0	2397	.0	437	250	.0	659	.0	71	60	.0	310	.0	89	30	.0
51055	1	1828	2.4	70	100	2.2	323	.0	232	40	.0	1662	2.3	68	100	2.1	1867	2.2	83	120	2.0
51055	2	188	.0	140	20	.0	133	.0	234	20	.0	118	.0	78	20	.0	109	.0	90	20	.0
51055	3	106	.0	65	20	.0	106	.0	262	10	.0	66	.0	80	10	.0	69	.0	90	10	.0
52001	1	3290	3.2	74	180	2.9	1494	.6	438	100	.7	2742	2.8	67	170	2.5	3930	3.2	89	300	2.9
52001	2	314	.0	100	20	.0	1797	1.0	421	70	1.0	384	.0	68	40	.0	298	.0	90	40	.0
52001	3	408	.1	64	20	.1	93	.0	313	0	.0	393	.0	106	20	.0	338	.0	188	10	.0

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60095	1	3673	.0	85	550	.0	1430	2.8	160	70	2.7	2873	.0	80	430	.1	2823	.0	75	450	.0
60095	3	255	.0	79	40	.0	117	.0	86	20	.0	270	.0	51	50	.0	221	.0	39	30	.0
60282	1	5414	.2	147	550	.2	5244	.0	155	610	.1	1766	.0	117	210	.0	592	.0	234	80	.0
60282	2	7191	1.2	106	600	1.2	4140	.1	158	450	.1	4170	.3	96	450	.4	2173	.5	203	180	.6
60282	3	7091	.2	71	700	.2	806	.0	288	70	.0	1562	.0	86	180	.0	1433	.0	118	130	.0
60302	1	6634	4.6	80	350	4.4	1711	.4	210	120	.4	7444	4.5	50	440	4.3	4994	4.8	63	330	4.7
60302	2	604	.0	132	60	.0	231	.0	115	20	.0	411	.0	70	60	.0	341	.0	93	30	.0
60302	3	1035	.3	36	80	.3	356	.0	99	40	.0	769	.5	39	70	.7	950	.3	49	80	.2
60308	1	2553	.7	53	170	.6	1482	1.3	132	70	1.2	2592	1.0	50	140	1.0	7454	.4	88	800	.4
60308	2	243	.0	109	40	.0	151	.0	139	40	.0	653	.1	37	90	.2	815	.1	49	100	.1
60308	3	329	.0	65	50	.0	237	.1	102	20	.1	191	.0	68	40	.0	188	.0	125	30	.0
60342	1	6264	1.5	65	500	1.2	1271	.1	120	90	.1	4874	1.5	53	340	1.2	3843	1.7	68	290	1.4
60342	2	5640	.0	74	700	.0	876	.0	99	100	.0	1861	.0	79	220	.0	4990	.0	104	620	.0
60342	3	5160	.2	79	490	.1	1106	.1	104	110	.1	1427	.1	81	140	.0	1301	.1	151	140	.0
60342	4	2443	.4	76	180	.3	335	.0	231	40	.0	2305	.4	56	140	.4	2326	.4	64	160	.3
60371	1	2241	2.1	68	140	1.9	531	.1	180	50	.1	1620	1.3	63	110	1.2	1568	1.1	63	110	1.1
60371	2	1739	1.1	96	120	1.1	436	.0	290	60	.0	876	.3	54	100	.3	907	.3	51	120	.3
60371	3	209	.0	146	40	.0	90	.0	288	30	.0	402	.0	111	70	.0	325	.0	91	50	.0
60385	1	9695	7.2	40	460	6.6	3793	.5	185	140	1.1	9985	7.6	28	680	7.0	9985	7.5	15	720	7.0
60385	2	3420	1.1	94	130	.9	2859	1.3	151	100	1.5	3030	1.5	91	140	1.7	2529	.2	173	140	.3
60385	3	1341	.0	86	130	.1	1855	.2	104	140	.2	1791	.1	61	150	.1	1760	.1	86	150	.1
60388	1	5690	8.0	39	220	7.0	586	.0	383	50	.0	6160	8.2	34	240	7.2	1488	8.2	31	270	7.2
60388	2	292	.0	101	40	.0	133	.0	358	20	.0	188	.0	104	40	.0	210	.0	166	30	.0
60388	3	1240	.2	215	100	.2	457	.0	603	30	.0	265	.0	595	20	.0	723	.0	78	60	.0
60411	1	5550	2.3	24	350	2.2	653	.0	196	60	.0	4410	1.9	26	260	1.7	3550	1.8	56	260	1.7
60411	2	139	.0	135	30	.0	139	.0	105	30	.0	170	.0	60	40	.0	96	.0	65	30	.0
60411	3	170	.0	65	30	.0	96	.0	145	20	.0	133	.0	80	30	.0	81	.0	135	20	.0

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60416	1	3430	1.4	29	180	1.3	417	.0	188	30	.1	5730	3.6	26	280	2.9	4470	3.7	26	260	3.0
60416	2	659	.0	53	90	.0	350	.0	207	30	.0	512	.0	73	60	.0	222	.0	142	40	.0
60416	3	1571	.1	24	140	.2	570	.1	228	60	.1	2709	.3	31	200	.4	2152	.3	74	180	.2
60495	1	5530	3.4	81	340	3.2	1121	.0	305	100	.0	5430	3.5	76	340	3.4	5600	3.6	101	400	3.4
60495	2	356	.0	94	50	.0	270	.0	226	40	.0	200	.0	89	40	.0	243	.0	268	40	.0
60495	3	1436	.2	88	100	.2	794	.1	309	50	.1	720	.0	75	20	.0	494	.0	135	40	.0
60507	1	9983	5.6	26	680	5.0	2167	.1	96	180	.1	9983	5.9	26	660	5.2	9311	6.0	26	640	5.2
60507	2	1806	.7	41	130	.7	1770	.1	96	160	.1	1733	.6	39	140	.7	1647	.3	49	120	.5
60507	3	1069	.4	65	80	.4	1687	.1	78	120	.1	515	.0	60	40	.1	610	.0	93	50	.0
60558	1	6974	2.7	68	610	2.7	8475	.1	115	800	.1	7724	1.4	80	750	1.5	4513	1.9	122	380	1.8
60558	2	1968	1.5	83	130	1.3	191	.0	239	30	.0	1641	1.0	80	120	.9	2189	.9	110	160	.7
60558	3	4694	.3	60	430	.3	1910	.1	132	200	.1	1243	.1	65	100	.1	1057	.0	117	120	.1
60568	1	5634	3.5	53	430	3.2	879	.0	55	70	.0	5914	4.6	38	480	4.3	9985	5.1	25	820	4.6
60568	2	693	.0	136	100	.0	332	.0	64	40	.0	711	.0	191	100	.0	384	.0	594	60	.0
60568	3	2085	.5	64	150	.4	537	.0	54	20	.0	1005	.2	74	50	.1	5670	5.7	66	360	4.6
60584	1	4420	2.9	44	240	2.4	1724	.6	537	80	.6	4620	3.0	46	260	2.4	4620	3.0	41	290	2.4
60584	2	778	.0	80	80	.0	977	.3	546	70	.5	252	.0	80	40	.0	329	.0	152	40	.0
60584	3	1727	.1	60	100	.1	549	.2	137	40	.1	344	.0	75	40	.0	292	.0	130	30	.0
60601	1	2632	.3	84	240	.3	353	.0	163	40	.0	2989	1.0	66	240	.5	1953	.7	183	160	.7
60601	2	3540	.4	91	300	.4	255	.0	163	40	.1	3420	.9	66	260	1.2	1837	.6	221	160	.6
60601	3	858	.0	113	140	.0	408	.3	447	40	.0	647	.0	138	100	.0	255	.0	288	70	.0
60601	4	2761	2.4	100	120	2.2	194	.1	145	20	.1	1711	.2	60	190	.3	763	.1	130	70	.1
60675	1	4310	6.0	24	210	5.0	705	.1	295	50	.1	4080	5.8	39	200	5.2	4320	5.7	24	220	5.2
60675	2	766	.0	66	70	.0	439	.0	216	40	.0	534	.0	101	60	.0	423	.0	74	50	.0
60675	3	439	.0	86	40	.0	203	.0	213	20	.0	803	.4	66	80	.5	1066	.6	9	90	.7

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
60708	1	9065	1.5	85	820	1.0	473	.0	322	60	.0	6224	1.5	60	530	1.5	4673	1.8	40	390	2.0
60708	2	613	.0	64	80	.0	124	.0	295	20	.0	1029	.0	81	150	.0	852	.0	126	130	.0
60708	3	665	.0	76	100	.0	1892	.0	318	240	.0	552	.0	69	70	.0	261	.0	106	40	.0
60722	1	4323	2.1	50	260	2.0	6824	.0	102	760	.1	5324	2.3	53	340	2.4	3933	2.3	55	290	2.3
60722	2	3103	.1	58	380	.2	5314	.0	142	550	.1	818	.0	70	80	.0	485	.0	90	40	.0
60722	3	99	.0	160	20	.0	69	.0	668	20	.0	90	.0	172	20	.0	115	.0	229	20	.0
61101	1	277	.2	51	20	.2	75	.0	133	10	.0	234	.1	54	20	.0	258	.3	44	20	.3
61101	2	127	.0	71	50	.0	65	.0	106	40	.0	93	.0	59	40	.0	87	.0	56	40	.0
61101	3	4120	.1	36	440	.1	509	.0	146	60	.1	1534	.0	41	200	.0	2076	.0	36	260	.0
61107	1	9985	4.4	98	1320	4.2	1277	.1	137	120	.2	9985	4.7	30	1050	4.5	9985	5.5	28	1040	5.1
61191	1	5214	3.2	45	280	3.1	1314	.4	127	60	.5	4283	2.6	43	240	2.5	3403	2.6	48	240	2.5
61191	2	219	.0	33	20	.0	124	.0	142	20	.0	203	.0	68	20	.0	136	.0	58	20	.0
61191	3	374	.0	66	60	.0	240	.0	123	40	.0	264	.0	71	40	.0	179	.0	131	40	.0
62105	1																				
62105	2	1173	.0	71	190	.0	240	.0	871	80	.0	836	.0	86	120	.0	537	.0	69	120	.0
62105	3	3179	3.1	34	130	2.6	4760	.4	171	400	.5	3990	3.5	31	200	3.0	3320	3.0	31	180	2.5
62105	4	1956	1.4	50	100	1.2	4393	.0	232	500	.1	2256	1.5	50	140	1.4	1956	1.1	50	130	1.0
62201	1	2262	.0	57	240	.0	855	.0	139	90	.0	769	.0	34	80	.0	497	.0	42	60	.0
62201	2	512	.2	54	50	.3	644	.0	106	60	.0	252	.0	59	30	.1	258	.0	82	20	.0
62201	3	693	.0	89	90	.0	433	.0	123	50	.0	598	.0	74	70	.0	362	.0	104	60	.0
62201	4	473	.0	65	50	.0	366	.0	93	40	.0	454	.0	60	50	.0	216	.0	80	30	.0
66026	1	7194	5.6	35	260	4.8	2703	3.5	63	100	3.2	5894	5.5	28	240	4.6	5704	5.4	25	240	4.6
66026	2	1338	2.3	55	60	1.9	2069	2.4	58	70	2.2	1323	1.6	55	60	1.4	1353	2.0	60	70	1.9
66026	3	1662	.3	89	100	.3	2649	1.5	94	130	1.7	1938	.3	84	140	.4	2002	.2	114	140	.3

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

	----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
	----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
70075 1	8615	5.6	43	520	4.8	2271	1.0	414	120	1.0	9655	6.2	68	520	5.4	9095	7.3	20	570	6.6
70075 2	1415	.6	61	110	.6	206	.0	335	40	.0	1733	1.3	49	120	1.3	2244	1.1	81	170	1.2
70075 3	1124	.5	60	90	.6	1222	.9	441	60	.8	1289	.9	63	100	.8	1561	.6	107	120	.7
70075 4	876	.3	74	100	.2	827	.0	81	140	.0	1684	1.3	59	120	1.2	2235	1.1	91	170	1.0
70135 1	2085	.7	104	140	.8	530	.0	652	60	.0	1779	.6	81	130	.9	1693	.3	136	140	.5
70135 2	399	.0	84	90	.0	166	.0	492	40	.0	188	.0	96	50	.0	169	.0	99	50	.0
70135 3	1528	.1	63	130	.1	687	.2	192	50	.2	344	.0	65	30	.0	237	.0	68	20	.0
70141 1	6864	4.5	40	470	3.9	399	.0	107	40	.0	6004	4.4	35	320	3.6	4543	5.6	40	300	4.5
70141 2	1262	1.1	40	60	.9	164	.0	130	10	.0	1060	1.1	53	50	.9	1467	1.3	45	100	.9
70141 3	25	.0	55	20	.0	173	.0	100	20	.0	173	.0	68	20	.0	133	.0	102	20	.0
70156 1	1558	.2	75	100	.2	2133	1.4	180	100	1.2	1757	.4	78	110	.4	1644	.1	60	110	.1
70156 2	335	.0	84	50	.0	1427	.9	138	90	.8	329	.0	81	50	.0	307	.0	84	50	.0
70156 3	772	.0	40	110	.0	1977	1.2	130	110	1.1	482	.0	65	90	.0	298	.0	55	40	.0
70262 1	5824	.6	38	600	.6	641	.0	147	60	.0	6044	1.6	43	550	1.7	3373	1.9	43	270	1.9
70262 2	323	.0	83	30	.0	112	.0	289	10	.0	310	.0	90	40	.0	148	.0	127	20	.0
70262 3	246	.0	58	40	.0	121	.0	160	20	.0	262	.0	83	40	.0	121	.0	122	30	.0
70287 1	3680	2.5	114	160	2.4	4040	2.6	612	200	2.7	3720	2.3	87	180	2.4	4120	1.9	169	280	2.0
70287 2	1350	.1	68	90	.1	3033	1.9	633	190	2.0	549	.0	68	50	.0	470	.0	95	60	.0
70287 3	919	.0	74	100	.0	2733	1.0	926	140	1.0	515	.0	79	60	.0	350	.0	74	50	.0
70398 1	5394	5.5	53	220	5.0	2608	1.9	110	120	2.0	5454	5.5	58	230	5.1	4673	5.5	35	280	5.3
70398 2	663	.0	86	100	.0	2596	2.4	203	120	2.0	515	.0	84	50	.1	509	.0	106	60	.0
70398 3	393	.0	79	100	.0	2045	1.3	268	160	1.2	677	.0	81	100	.1	546	.0	101	100	.0
70508 1	5174	4.1	75	400	4.0	2573	.9	795	100	1.4	5154	4.7	90	400	4.5	4273	4.8	58	340	4.6
70508 2	283	.0	126	50	.0	59	.0	702	40	.0	277	.0	104	60	.0	124	.0	458	40	.0
70508 3	185	.0	68	20	.0	864	.0	73	90	.0	182	.0	65	20	.0	115	.0	117	10	.0

TABLE 5.5-8 FOUR MODE TEST (POST-MECHANIC TRAINING)

		----IDLE NEUTRAL-----					-------2500 RPM-------					----IDLE NEUTRAL-----					----IDLE IN GEAR-----				
		----LAB-----			-GARAGE-		-----LAB-----			-GARAGE-		----LAB-----			-GARAGE-		----LAB-----			-GARAGE-	
EPA NO	S	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO	HC	CO	NOX	HC	CO
70626	1	3400	1.8	66	160	1.8	693	.0	126	80	.0	3270	1.9	71	160	2.0	3139	1.8	84	220	1.9
70626	2	3583	3.1	40	230	2.9	4093	.3	85	350	.3	2109	.7	58	140	.7	2078	.5	75	170	.4
70626	3	3860	3.2	39	200	3.0	1724	.1	99	180	.0	3940	3.5	39	200	3.2	3340	3.1	49	220	2.9
70626	4	234	.0	76	30	.0	200	.0	66	30	.0	139	.0	74	20	.0	105	.0	148	20	.0
71001	1	2069	.0	64	240	.0	5280	.0	214	600	.0	1580	.0	47	200	.0	1442	.0	52	190	.0
71001	2	274	.0	85	20	.0	44	.0	205	10	.0	182	.0	68	20	.0	164	.0	125	20	.0
71001	3	3890	.1	59	350	.1	325	.0	330	40	.0	815	.0	89	100	.0	417	.0	166	60	.0
72002	1	9522	2.1	61	800	2.1	5430	.4	383	420	.5	9982	1.3	74	1020	1.1	7501	1.9	181	660	1.6
72002	2	488	.0	201	80	.0	1311	.4	56	160	.4	699	.0	56	110	.0	515	.0	49	80	.0
72002	3	576	.0	325	50	.0	2381	.6	61	260	.6	601	.0	320	50	.0	280	.1	579	20	.1
72002	4	555	.0	100	70	.0	1121	.0	180	130	.0	200	.0	115	20	.0	121	.0	307	20	.0
76012	1	8101	5.0	51	500	4.7	766	.0	146	70	.0	7281	5.1	36	460	4.8	6140	5.4	34	450	4.8
76012	2	402	.0	66	60	.0	151	.0	158	30	.0	478	.1	51	60	.1	243	.0	71	40	.0
76012	3	295	.0	118	20	.0	96	.0	133	0	.0	154	.0	71	10	.0	148	.0	128	10	.0
76015	1	163	.0	59	40	.0	26	.0	310	20	.0	491	.3	59	70	.5	509	.6	74	80	.8
76015	2	219	.0	73	30	.0	84	.0	294	20	.0	329	.0	63	40	.0	200	.0	102	40	.0
76015	3	234	.0	50	20	.0	106	.0	137	20	.0	977	.4	38	70	.4	567	.2	50	60	.2
76023	1	6944	4.0	30	490	3.9	942	.0	165	100	.1	6424	4.5	40	450	4.5	5794	4.9	35	460	4.8
76023	2	766	.0	86	70	.0	616	.0	161	60	.0	515	.0	99	60	.0	332	.0	318	40	.0
76023	3	301	.0	61	50	.0	270	.0	153	40	.0	393	.0	36	80	.0	169	.0	138	40	.0

TABLE 5.5-9 FTP & HFET (PRE-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
40601	1	800225	57681	2.51	24.91	668.1	3.61	3.01	12.4	1.25	4.31	480.1	4.85	18.07
40601	2	800226	57718	2.30	16.25	654.9	3.04	2.68	12.9	1.28	4.00	472.6	4.44	18.36
40601	3	800227	57762	1.70	11.13	750.8	2.42	2.12	11.5	.96	3.48	500.8	3.36	17.41
40602	1	800228	42503	3.38	27.65	645.9	5.34	4.68	12.7	1.36	4.01	470.6	6.55	18.43
40602	2	800303	42554	2.77	15.47	738.6	6.37	5.49	11.5	.95	3.46	499.0	7.12	17.48
40602	3	800305	42554	2.72	12.56	677.9	2.70	2.26	12.6	1.12	3.39	494.3	2.21	17.63
40901	1	800226	56213	7.48	66.10	677.8	5.51	4.78	11.0	1.95	14.11	519.5	7.18	16.19
40901	2	800229	56317	3.52	24.22	752.1	5.10	4.34	11.1	1.39	8.95	538.0	6.72	15.94
40901	3	800304	56317	4.13	25.39	798.8	6.08	5.15	10.4	1.34	9.21	526.8	5.46	16.26
41301	1	800228	64512	5.28	114.91	553.3	1.45	1.27	11.8	2.53	23.99	481.9	2.14	16.81
41301	2	800303	64560	5.42	130.07	589.7	1.20	1.05	10.9	1.83	28.90	539.8	1.68	15.01
41301	3	800306	64603	5.30	115.02	552.7	1.78	1.45	11.8	3.15	58.08	427.6	2.14	16.77
41501	1	800227	63158	3.79	49.71	439.6	3.78	3.32	16.7	1.56	19.43	349.0	6.00	23.07
41501	2	800229	63212	2.35	16.20	457.4	4.86	4.20	18.1	1.07	7.34	348.9	7.22	24.38
41501	3	800303	63212	2.01	26.16	443.6	4.25	3.79	18.1	1.24	13.38	345.1	6.39	23.96
41601	1	800227	76903	11.15	114.84	507.9	2.62	2.33	12.3	3.59	53.41	397.3	3.89	18.00
41601	2	800229	76995	2.42	18.55	644.3	4.11	3.58	13.0	2.10	17.46	416.6	6.03	19.68
41601	3	800305	76995	2.24	23.75	674.6	3.48	2.88	12.3	2.56	50.30	410.2	3.27	17.83
42001	1	800225	74020	2.82	38.02	625.0	4.96	4.26	12.8	1.63	7.18	493.2	7.40	17.40
42001	2	800227	74100	2.76	25.39	639.2	5.12	4.56	12.9	1.76	7.05	496.5	7.52	17.28
42001	3	800229	74100	3.23	21.62	626.1	5.87	5.09	13.2	2.13	4.73	475.3	9.65	18.12
42002	1	800228	75391	3.08	51.54	614.8	3.05	2.69	12.6	1.26	8.98	487.0	4.23	17.56
42002	2	800304	75428	2.64	29.73	632.5	3.16	2.77	12.9	1.35	9.11	474.0	4.29	18.00
42002	3	800306	75475	3.40	30.55	597.1	3.01	2.45	13.5	2.15	7.15	428.7	4.94	19.85
51011	1	800130	64980	3.93	79.48	530.9	1.54	1.18	13.3	2.07	47.37	426.9	2.46	17.46
51011	2	800201	64990	1.14	20.08	644.5	1.78	1.46	13.0	.15	2.47	481.7	2.93	18.25

TABLE 5.5-9 FTP & HFET (PRE-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
51016	1	800130	51366	2.12	37.76	628.6	4.49	3.43	12.8	.22	3.59	498.5	5.65	17.57
51016	2	800204	51434	1.28	37.43	698.4	2.22	1.87	11.6	.10	4.10	559.8	3.28	15.65
51016	3	800206	51470	.80	10.36	662.8	2.33	2.01	13.0	.10	1.22	509.8	3.43	17.32
51064	1	800211	27036	1.64	13.28	594.8	2.16	1.75	14.3	.20	1.16	464.3	2.54	19.00
51064	2	800213	27150	1.64	14.37	607.4	4.68	3.78	14.0	.21	1.38	455.6	6.11	19.34
51064	3	800219	27150	1.39	15.43	627.5	1.88	1.62	13.5	.17	2.34	468.7	1.97	18.75
51104	1	800207	97202	3.73	61.08	617.4	2.07	1.76	12.2	2.32	51.68	453.0	2.50	16.37
51104	2	800208	97281	2.88	46.88	614.8	2.05	1.69	12.7	1.93	45.72	445.3	2.38	16.95
51104	3	800212	97281	2.82	45.63	610.9	2.06	1.67	12.8	1.66	38.09	447.9	2.75	17.29
51104	4	800425	98710	3.23	26.32	710.2	2.35	2.05	11.6	4.47	143.56	376.5	.75	14.39
51104	5	800429	98740	1.83	20.67	639.3	2.52	2.21	13.1	.69	10.78	469.5	3.68	18.15
52011	1	800131	40071	1.24	16.49	385.8	2.61	2.09	21.3	.19	1.19	309.2	3.29	28.45
52011	2	800204	40115	.83	14.58	444.5	1.35	1.13	18.9	.09	.78	347.5	1.34	25.41
52011	3	800206	40115	1.13	19.06	419.3	1.33	1.14	19.6	.12	1.62	331.1	1.53	26.55
52018	1	800205	49444	2.74	27.76	392.2	1.69	1.38	19.9	.37	2.69	269.9	2.43	32.21
52018	2	800207	49482	1.87	23.90	447.5	1.24	1.06	18.1	.26	11.56	352.1	1.57	23.90
52018	3	800211	49557	2.07	20.49	414.2	1.62	1.31	19.6	.30	3.28	272.0	2.07	31.89
52018	4	800502	51479	1.93	14.76	420.3	1.99	1.71	19.7	.29	3.60	292.9	2.77	29.62
52019	1	800208	75571	3.88	96.19	405.4	3.70	3.03	15.6	.64	9.91	350.3	5.64	24.10
52019	2	800211	75669	1.45	16.21	470.3	4.15	3.35	17.7	.26	2.17	355.7	5.99	24.63
52019	3	800223	75749	.89	9.62	477.8	4.28	3.67	17.9	.17	.99	356.4	5.40	24.74
52057	1	800208	42182	1.95	37.38	429.1	7.12	5.87	18.0	.37	2.04	402.3	10.64	21.81
52057	2	800209	42281	.60	5.92	438.8	6.60	5.40	19.7	.10	.06	349.0	7.34	25.38
52057	3	800213	42281	.53	6.25	478.0	2.88	2.33	18.1	.14	.07	367.0	2.59	24.13
52058	1	800209	57156	5.06	65.34	627.7	3.17	2.58	11.9	2.35	37.66	471.8	3.12	16.47
52058	2	800212	57210	4.72	68.90	641.1	3.03	2.47	11.6	2.11	36.29	473.6	2.94	16.51
52058	3	800222	57248	3.17	27.28	755.6	3.05	2.52	11.0	1.05	8.36	549.8	3.16	15.66
52058	4	800317	57635	2.84	25.50	776.5	3.39	2.96	10.7	1.20	14.20	555.4	2.67	15.25
52058	5	800320	57666	1.63	34.93	980.9	1.60	1.35	8.5	.55	14.62	742.9	1.54	11.55
52058	6	800327	57706	3.38	29.14	728.5	3.44	2.81	11.3	1.17	7.99	557.2	3.28	15.46

TABLE 5.5-9 FTP & HFET (PRE-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
52111	1	800215	41390	1.36	19.67	451.4	3.16	2.62	18.2	.39	3.70	336.5	3.02	25.82
52111	2	800221	41395	1.02	8.41	463.1	3.12	2.58	18.5	.20	.46	350.4	2.96	25.21
52111	3	800222	41440	.81	5.73	448.7	2.74	2.33	19.3	.17	.22	351.2	3.01	25.19
60112	1	800221	48190	3.21	59.54	597.5	2.34	1.96	12.6	.55	9.62	479.1	2.69	17.88
60112	2	800223	48245	.92	13.87	803.9	1.36	1.14	10.7	.04	1.05	587.4	1.40	15.05
60112	3	800225	48245	1.21	15.47	656.1	2.57	2.19	13.0	.20	3.29	477.6	2.89	18.34
60151	1	800220	25304	1.95	38.20	588.4	2.53	2.12	13.5	.40	2.38	439.7	2.94	19.94
60151	2	800222	25313	.87	6.37	604.4	2.34	1.97	14.4	.26	.40	438.6	2.73	20.15
60151	3	800226	25360	.83	5.81	615.7	2.17	1.92	14.1	.24	.34	436.7	2.41	20.25
60434	1	800215	37238	2.65	32.00	595.9	4.62	3.73	13.5	1.10	8.12	439.4	6.17	19.46
60434	2	800221	37324	1.86	19.41	611.0	5.47	4.58	13.7	.74	3.34	439.4	6.87	19.84
60434	3	800229	37324	2.70	5.56	632.5	1.86	1.58	13.6	.41	.65	447.2	4.73	19.73
60506	1	800221	34615	1.34	23.16	468.0	3.03	2.52	17.4	.18	1.22	385.6	3.31	22.85
60506	2	800223	34666	.51	4.38	487.4	2.71	2.27	17.9	.06	.04	385.7	2.57	22.98
60506	3	800226	34666	1.18	18.11	477.6	2.34	2.06	17.4	.17	.97	389.5	1.84	22.65
60627	1	800220	33758	3.15	26.12	618.0	3.02	2.51	13.3	.79	5.60	515.1	3.68	16.85
60645	1	800220	54069	2.63	23.91	310.0	3.24	2.73	24.9	.57	2.20	287.8	5.24	30.26
60645	2	800222	54112	1.29	4.58	336.3	2.77	2.35	25.5	.22	.86	287.2	4.38	30.66
60663	1	800219	58178	3.12	53.08	557.5	3.67	3.11	13.6	.31	2.49	474.1	5.18	18.51
60663	2	800221	58266	.61	9.07	688.1	1.98	1.63	12.6	.04	.46	534.6	2.33	16.56
60663	3	800226	58266	.77	8.16	640.9	3.90	3.36	13.5	.14	.83	490.1	5.16	18.03
61000	1	800221	93687	3.21	36.94	546.4	4.36	3.63	14.4	.79	12.37	419.5	5.03	20.09
61000	2	800225	93786	2.12	20.80	542.8	4.52	3.83	15.2	.51	7.78	413.2	5.05	20.77
61000	3	800226	93786	2.53	27.01	543.8	4.92	4.34	14.9	.55	8.49	417.2	6.19	20.51
61002	1	800222	47364	2.06	25.21	524.9	2.46	2.07	15.5	.31	5.17	419.1	2.94	20.71
61002	2	800226	47415	2.06	23.58	525.0	2.25	1.98	15.6	.20	2.54	426.8	2.80	20.56
61002	3	800228	47415	2.21	24.38	517.9	2.32	2.03	15.7	.21	3.03	411.3	2.88	21.28

TABLE 5.5-9 FTP & HFET (PRE-MECHANIC TRAINING)

EPA NO	S	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG
61005	1	800131	23036	3.87	43.95	452.7	2.93	2.26	16.6	1.18	14.14	370.9	2.93	22.35
61005	2	800201	23043	3.69	26.75	473.4	2.87	2.36	16.8	.58	5.50	370.5	2.56	23.28
61005	3	800204	23088	1.98	26.32	458.4	2.80	2.33	17.5	.43	3.10	380.9	2.86	22.91
61005	4	800422	23891	4.22	34.12	469.0	2.88	2.57	16.5	.72	5.90	369.0	2.71	23.30
61006	1	800225	30329	3.95	50.39	575.8	1.68	1.41	13.3	.36	1.46	483.0	2.32	18.23
61006	2	800228	30387	3.05	27.65	589.1	1.67	1.46	13.8	.50	1.72	472.6	2.10	18.59
61006	3	800303	30387	1.23	13.50	718.1	1.48	1.28	11.9	.13	.38	502.6	1.56	17.61
61057	1	800227	25541	5.14	95.61	442.0	3.85	3.40	14.6	2.33	37.86	387.5	5.93	19.52
61057	2	800303	25583	1.09	3.04	551.4	1.73	1.58	15.8	.42	.36	428.1	1.54	20.62
61057	3	800307	25625	1.84	11.87	519.5	1.94	1.61	16.3	.39	.38	444.0	1.59	19.89
61106	1	800221	48828	4.23	9.74	682.9	2.34	1.96	12.5	.70	.66	527.9	2.42	16.69
62002	1	800131	75065	3.62	41.27	314.1	2.64	2.13	22.7	.72	5.89	261.6	5.20	32.46
62002	2	800205	75138	1.64	31.35	374.3	1.20	1.00	20.7	.22	3.86	288.9	1.95	29.99
62002	3	800212	75150	2.03	21.65	355.3	1.99	1.64	22.4	.46	2.81	259.4	3.52	33.44
62002	4	800424	79229	2.59	34.55	342.4	1.41	1.22	21.9	.54	3.78	250.2	3.09	34.38
62102	1	800212	51893	3.46	92.08	598.6	.80	.65	11.8	1.55	46.24	475.9	.81	16.02
62102	2	800213	51946	2.85	73.91	624.9	.87	.71	11.8	1.24	34.97	482.8	.88	16.37
62102	3	800220	51975	3.62	40.68	532.2	1.92	1.57	14.6	1.59	11.63	424.8	2.42	19.79
71008	1	800208	15404	1.66	18.05	340.0	2.73	2.26	23.7	.89	5.04	235.6	4.13	36.01
71015	1	800131	41184	2.40	37.40	522.0	1.80	1.43	15.1	.36	2.42	391.5	2.76	22.37
71015	2	800204	45125	.67	13.66	695.2	1.14	.96	12.3	.04	1.12	512.0	1.40	17.26
71015	3	800206	41249	1.11	4.57	512.7	3.21	2.78	16.9	.22	.18	379.6	3.95	23.30
71015	4	800423	43927	1.15	7.02	519.0	3.30	2.93	16.6	.15	.13	358.1	3.69	24.71
71105	1	800201	38866	2.00	37.08	357.6	2.77	2.26	21.0	.43	8.35	288.9	2.43	29.23
71105	2	800205	38934	2.10	34.83	370.5	2.81	2.39	20.5	.36	8.00	289.5	2.20	29.25
71105	3	800208	38978	.69	13.75	399.6	1.51	1.23	20.9	.07	1.09	322.6	2.36	27.32
71105	4	800318	39707	1.11	19.74	376.4	2.87	2.53	21.6	.15	2.57	295.1	4.53	29.60

TABLE 5.5-9 FTP & HFET (PRE-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
71114	1	800212	43267	3.01	40.23	507.5	1.38	1.11	15.3	.23	2.72	413.5	1.30	21.19
71114	2	800214	43312	.98	14.38	536.8	1.42	1.11	15.8	.11	.87	418.5	1.43	21.10
71114	3	800220	43357	1.24	17.82	547.2	1.26	1.04	15.3	.12	1.87	428.0	1.22	20.56
71120	1	800107	20676	2.86	39.82	454.8	1.33	1.12	16.8	.42	3.62	375.6	1.28	23.18
71120	2	800212	20780	1.19	12.29	475.9	1.50	1.24	17.8	.22	1.54	373.7	1.44	23.54
71120	3	800213	20780	.99	10.95	464.0	1.44	1.17	18.3	.21	1.98	364.5	1.63	24.08
71120	4	800429	22117	1.89	20.86	450.0	1.52	1.34	18.1	.30	2.16	359.0	1.46	24.41
71123	1	800211	21406	4.58	54.85	409.2	4.86	3.91	17.4	.46	3.35	346.1	7.02	25.14
71123	2	800213	21422	2.40	35.21	473.0	1.28	1.02	16.5	.21	3.10	357.7	1.54	24.41
71123	3	800220	21450	2.41	23.39	462.1	1.70	1.49	17.5	.16	1.16	352.5	2.10	24.99
71123	4	800509	22402	1.12	11.39	481.0	2.05	1.85	17.6	.07	.15	354.3	2.02	25.00
72005	1	800131	24192	4.30	86.40	428.1	1.04	.81	15.4	2.91	79.83	343.7	.97	18.54
72005	2	800204	24236	2.32	40.48	432.7	.88	.76	17.6	2.35	64.60	352.7	.97	19.21
72005	3	800207	24238	.80	7.54	504.4	6.09	5.19	17.1	.59	7.35	417.4	8.06	20.59
72007	1	800130	19059	6.34	122.42	393.1	2.14	1.67	14.6	3.50	91.67	317.4	2.89	18.77
72007	2	800201	19066	4.00	90.99	415.1	2.07	1.71	15.5	3.06	81.34	328.5	2.96	19.03
72007	3	800205	19115	5.04	96.76	404.7	.74	.62	15.5	3.13	74.53	293.8	.46	21.07
72007	4	800423	20130	2.10	16.63	491.5	1.95	1.68	16.9	1.12	8.98	402.3	1.14	21.12
72014	1	800205	30713	1.23	22.13	569.7	1.86	1.55	14.6	.14	1.13	443.8	2.17	19.88
72014	2	800207	30736	.43	4.63	601.1	1.72	1.45	14.5	.03	.05	423.8	1.85	20.92
72014	3	800208	30789	.41	5.30	581.5	1.82	1.52	15.0	.04	.13	437.8	2.22	20.24
72111	1	800213	33306	1.68	26.75	535.5	2.06	1.68	15.2	.24	1.85	419.2	3.40	20.97
72111	2	800214	33360	.94	14.30	612.6	1.69	1.33	13.9	.11	.57	436.4	2.62	20.26
72111	3	800222	33392	1.21	15.17	565.2	1.74	1.46	15.0	.14	.59	440.3	3.35	20.08

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
40603	1	800314	74578	6.18	225.13	535.5	.72	.61	9.8	4.43	168.82	364.7	.85	13.77
40603	2	300318	74585	5.50	206.68	579.6	.80	.70	9.6	4.15	159.85	384.5	.94	13.67
40603	3	800321	74635	3.19	37.43	689.3	2.28	1.99	11.7	2.44	28.65	485.3	2.89	16.48
40604	1	800409	46935	2.42	22.21	677.4	5.22	4.50	12.3	1.01	3.72	484.1	4.74	17.98
40604	2	800414	47022	2.71	19.81	695.9	4.33	3.88	12.1	1.04	3.72	470.6	4.31	18.48
40604	3	800416	47022	4.41	11.26	695.9	4.52	3.99	12.2	1.32	3.39	490.7	4.61	17.73
40605	1	800509	56942	2.22	38.39	665.2	3.45	3.36	12.1	1.05	5.30	467.0	5.75	18.53
40605	2	800512	56997	1.96	16.32	678.8	3.63	3.54	12.5	1.24	3.91	460.5	6.10	18.85
40605	3	800513	57028	3.03	18.26	610.7	2.89	2.68	13.7	1.27	4.58	473.8	2.58	18.28
41502	1	800317	41285	3.07	42.66	526.4	4.15	3.56	14.7	1.41	10.74	404.5	6.63	20.82
41502	2	800319	41338	2.41	22.02	530.3	4.77	4.07	15.5	1.44	10.21	419.9	7.10	20.13
41502	3	800321	41338	2.42	31.46	515.2	7.81	6.58	15.5	1.25	7.41	413.3	13.14	20.68
41503	1	800326	35147	2.01	33.95	446.8	5.44	4.61	17.5	1.09	6.82	364.8	8.52	23.40
41503	2	800328	35228	1.40	8.90	456.4	5.77	4.90	18.7	.88	3.44	356.6	8.57	24.31
41503	3	800331	35228	1.59	11.96	472.2	5.88	4.89	17.9	.87	3.92	365.6	8.76	23.68
42003	1	800319	32763	2.52	38.01	634.9	3.22	2.82	12.6	.91	5.55	511.8	2.83	16.94
42003	2	800320	32864	3.46	23.56	567.4	3.06	2.67	14.4	.92	4.43	513.7	2.96	16.94
42003	3	800324	32864	2.71	21.16	632.4	3.46	2.91	13.2	1.43	4.39	467.4	4.03	18.52
42004	1	800409	63695	3.33	42.74	600.9	4.32	3.78	13.1	2.17	6.80	463.1	4.61	18.45
42004	2	800415	63780	2.87	28.65	658.1	5.09	4.27	12.5	.97	4.61	482.3	5.82	18.00
42004	3	800418	63750	3.93	35.46	566.3	7.90	6.92	14.0	2.20	5.25	435.3	7.18	19.69
42004	4	800421	63810	4.00	25.97	587.7	7.90	6.78	13.8	2.22	5.41	456.6	8.02	18.79
42005	1	800519	95156	4.09	58.46	543.5	3.95	3.54	13.7	2.58	15.45	418.1	6.47	19.68
42005	2	800521	95189	4.23	27.86	573.4	4.21	4.18	14.1	2.93	21.35	442.4	5.81	18.28
42005	3	800523	95235	4.09	20.59	618.5	1.99	1.74	13.4	2.07	11.23	423.6	3.12	19.80

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
50259	1	800327	50231	4.00	89.13	607.2	1.75	1.45	11.7	2.55	68.43	458.2	2.03	15.45
50259	2	800331	50329	4.89	126.39	579.0	1.58	1.33	11.2	2.57	69.20	461.0	2.13	15.34
50259	3	800403	50329	1.39	15.66	714.0	2.75	2.27	11.9	.34	1.71	541.7	4.32	16.26
50281	1	800317	63405	1.37	14.52	489.7	4.64	4.05	17.2	.27	2.58	378.7	5.45	23.12
50281	2	800319	63449	.80	9.71	511.3	5.03	4.43	16.8	.13	.69	381.9	6.03	23.13
50281	3	800321	63491	.80	8.06	501.3	2.92	2.56	17.2	.10	.56	410.5	2.91	21.54
50288	1	800310	66598	2.36	44.69	671.0	4.50	3.79	11.8	.26	1.70	518.0	4.88	17.00
50288	2	800312	66756	1.93	33.48	663.4	2.62	2.20	12.3	.20	2.08	526.3	3.60	16.73
50288	3	800314	66757	1.00	9.09	702.3	2.17	1.77	12.3	.19	.85	545.9	2.75	16.19
50308	1	800508	41379	2.40	46.25	433.0	6.06	5.38	17.3	.51	6.39	362.9	8.32	23.67
50308	2	800515	41414	.57	4.21	446.3	8.41	7.60	19.5	.09	.29	334.3	9.11	26.47
50308	3	800520	41463	1.08	9.91	445.1	3.95	3.65	19.1	.16	1.21	338.7	4.16	26.00
50308	4	800521	41492	1.32	14.05	459.3	3.75	3.69	18.3	.19	1.68	360.3	4.23	24.40
50468	1	800307	60897	2.07	38.80	436.5	4.11	3.42	17.6	.36	2.75	349.3	5.24	24.99
50468	2	800311	60957	1.41	20.62	480.8	4.04	3.40	17.1	.28	1.56	370.5	5.39	23.72
50468	3	800313	60957	.99	13.52	477.1	3.77	3.27	17.7	.19	.60	365.7	4.87	24.15
51013	1	800404	124134	4.41	36.22	571.2	3.47	3.02	13.8	.51	2.65	438.9	4.07	19.94
51013	2	800407	124182	.94	11.54	1037.0	3.65	2.98	8.4	.07	1.85	720.5	4.15	12.26
51013	3	800414	124182	2.17	16.79	589.8	9.07	7.82	14.2	.25	.37	436.0	7.85	20.27
51013	4	800415	124239	1.60	11.67	599.1	5.23	4.41	14.2	.24	.60	432.4	5.44	20.43
51055	1	800516	27652	1.34	33.44	678.7	3.35	3.08	12.1	.16	1.83	457.1	4.40	19.26
51055	2	800519	27736	.64	10.73	689.0	3.24	3.10	12.5	.08	.07	473.2	4.42	18.73
51055	3	800520	27736	.50	6.14	685.6	3.22	3.28	12.7	.07	.05	454.4	3.85	19.51
52001	1	800312	58393	3.21	67.66	524.6	3.63	3.05	13.8	.27	3.24	409.6	7.63	21.34
52001	2	800317	58451	2.33	47.25	502.2	4.02	3.50	15.2	.17	1.66	385.8	6.78	22.80
52001	3	800319	58451	1.72	35.04	578.3	2.42	2.05	13.9	.05	.20	468.5	2.92	18.91

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
60095	1	800331	42072	2.14	38.99	326.1	2.86	2.46	22.5	.43	7.89	260.1	5.10	32.39
60095	3	800402	42149	.94	4.82	430.9	1.25	1.04	20.1	.18	.50	294.6	3.20	29.96
60282	1	800328	45684	1.52	3.58	629.7	2.56	2.17	13.9	.54	.55	439.5	2.14	20.06
60282	2	800401	45785	2.22	14.63	617.7	2.86	2.40	13.7	.49	.91	478.8	3.80	18.41
60282	3	800409	45786	1.83	7.07	552.2	4.80	4.14	15.6	.38	.64	427.6	3.70	20.63
60302	1	800506	37182	4.32	61.40	530.1	2.37	2.15	13.8	.87	4.42	439.2	2.39	19.75
60302	2	800508	37241	1.06	6.97	693.3	1.36	1.29	12.5	.30	.75	465.6	1.53	18.96
60302	3	800509	37277	1.37	18.18	676.2	1.21	1.09	12.5	.32	.98	492.8	1.60	17.90
60308	1	800306	29508	3.54	44.39	603.8	2.66	2.20	13.0	1.39	21.77	476.3	2.86	17.22
60308	2	800307	29600	2.62	30.42	643.2	2.84	2.38	12.7	.24	2.80	518.4	4.28	16.94
60308	3	800310	29600	1.89	22.61	652.7	2.75	2.42	12.8	.18	2.51	521.0	3.96	16.88
60342	1	800409	66285	3.38	28.34	562.0	2.02	1.80	14.4	.85	3.04	434.1	2.26	20.08
60342	2	800414	66326	4.43	12.49	761.6	1.59	1.41	11.2	.19	1.91	578.6	1.39	15.23
60342	3	800416	66366	1.80	13.19	711.2	1.72	1.50	12.0	.23	1.84	530.7	1.28	16.60
60342	4	800417	66447	1.79	11.05	602.1	3.46	3.01	14.2	.36	1.49	442.4	3.93	19.89
60371	1	800320	52010	1.64	26.12	288.9	2.03	1.78	26.5	1.29	26.39	200.5	2.17	36.04
60371	2	800324	52095	1.62	19.70	319.9	2.65	2.20	24.9	1.28	26.45	233.7	3.35	31.74
60371	3	800326	52095	.63	6.43	318.6	3.04	2.59	26.8	.16	.41	239.4	4.56	36.87
60385	1	800319	61747	3.88	44.09	350.9	1.76	1.53	20.5	1.46	7.18	299.0	1.98	28.16
60385	2	800321	61783	2.78	35.86	496.9	1.54	1.31	15.8	.46	10.39	432.1	1.83	19.71
60385	3	800325	61823	2.38	12.96	415.2	2.01	1.63	20.0	.83	2.58	322.3	2.66	26.96
60388	1	800515	30424	2.92	64.53	443.0	3.51	3.01	16.0	.55	31.95	424.4	4.53	18.62
60388	2	800516	30462	1.08	9.92	499.4	4.60	4.04	17.1	.17	1.25	400.3	4.30	22.01
60388	3	800519	30505	1.76	13.82	453.0	8.35	8.04	18.5	.41	2.42	369.5	8.25	23.68
60411	1	800519	24157	2.36	36.46	541.5	2.73	2.44	14.6	.18	2.30	436.1	4.38	20.14
60411	2	800521	24215	.67	8.80	544.4	3.80	3.95	15.8	.06	.13	412.0	4.55	21.50
60411	3	800522	24243	1.42	18.89	538.5	3.52	3.36	15.5	.10	.43	405.1	4.78	21.84

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
60416	1	800505	46938	3.11	38.81	511.2	1.63	1.47	15.2	.43	9.50	415.7	2.06	20.53
60416	2	800509	46947	.81	8.31	499.6	2.84	2.78	17.2	.15	1.94	413.1	3.59	21.28
60416	3	800512	46998	1.78	17.01	508.5	2.50	2.26	16.4	.16	1.46	402.1	3.35	21.91
60495	1	800328	22162	2.86	31.02	459.2	4.95	4.08	17.2	4.94	2.08	393.9	5.99	21.48
60495	2	800401	22260	.90	7.21	496.6	4.07	3.41	17.4	.27	.33	407.0	5.48	21.71
60495	3	800403	22260	1.89	14.59	455.0	4.28	3.70	18.3	.33	.71	374.1	4.58	23.57
60507	1	800507	44303	5.51	54.00	514.8	2.20	1.91	14.4	.95	3.39	444.7	2.46	19.57
60507	2	800509	44356	2.03	20.10	632.3	1.45	1.31	13.2	.50	1.65	471.2	1.87	18.65
60507	3	800513	44403	1.38	13.56	637.5	1.56	1.52	13.4	.49	1.81	458.3	1.99	19.17
60558	1	800403	35441	3.83	32.95	568.7	2.00	1.72	14.0	.78	2.02	437.9	2.15	19.99
60558	2	800407	35492	1.98	21.44	622.1	2.88	2.43	13.4	.21	2.04	485.0	3.51	18.14
60558	3	800409	35539	2.31	6.29	587.9	1.71	1.51	14.7	.65	.75	440.8	1.81	19.97
60568	1	800314	39789	9.01	50.72	504.2	1.82	1.54	14.5	.53	1.40	428.7	2.29	20.50
60568	2	800318	39902	.82	2.11	554.1	3.90	3.31	15.8	.15	.10	481.9	2.92	18.38
60568	3	800320	39902	1.03	5.72	553.4	2.54	2.17	15.7	.17	.12	492.6	3.05	17.98
60584	1	800502	32107	2.65	28.90	443.5	6.31	5.74	17.8	.66	4.50	403.1	7.31	21.51
60584	2	800505	32203	1.36	8.91	472.8	7.28	6.93	18.1	.41	3.14	382.0	7.02	22.84
60584	3	800506	32203	1.06	6.16	469.4	3.38	3.15	18.4	.30	2.14	361.7	2.59	24.23
60601	1	800331	90178	1.28	23.54	829.9	2.87	2.41	10.2	.09	.14	600.3	2.71	14.76
60601	2	800402	90271	2.41	38.88	795.9	2.16	1.80	10.3	.21	1.47	611.6	2.74	14.43
60601	3	800403	90271	1.31	26.08	780.0	10.22	8.55	10.7	.11	.05	592.2	12.14	14.96
60601	4	800606	93884	2.31	27.62	741.0	2.14	2.07	11.2	.39	1.57	531.8	2.01	16.56
60675	1	800506	22691	2.10	33.42	318.1	1.91	1.69	23.5	.76	10.84	247.3	2.84	33.25
60675	2	800507	22749	1.07	10.46	328.5	2.27	1.96	25.5	.45	5.63	242.9	3.07	35.02
60675	3	800508	22777	1.31	14.01	330.1	1.89	1.70	24.9	.49	7.33	242.3	2.53	34.73

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
60708	1	800327	76549	2.38	14.45	554.5	8.18	7.35	15.2	.37	.71	445.9	10.07	19.79
60708	2	800331	76583	1.16	3.28	620.5	8.28	6.90	14.1	.20	.07	480.4	11.46	18.43
60708	3	800401	76628	1.58	3.30	637.2	5.43	4.53	13.7	.20	.15	491.0	7.23	18.03
60722	1	800505	42199	3.28	36.11	546.6	2.14	2.03	14.4	.65	1.86	448.2	2.62	19.57
60722	2	800507	42253	1.67	6.32	581.8	2.18	1.98	14.9	.60	.53	431.4	2.26	20.43
60722	3	800508	42286	.83	9.49	628.9	4.15	3.94	13.7	.23	.39	423.8	5.77	20.86
61101	1	800410	23668	.83	4.68	525.5	2.08	1.74	16.6	.96	1.92	386.0	3.25	22.62
61101	2	800414	23722	.74	3.83	457.1	1.63	1.42	19.1	.08	.36	316.8	1.84	27.92
61101	3	800416	23785	1.23	3.10	384.1	2.48	2.27	22.6	.37	.39	269.7	3.19	32.66
61107	1	800501	47633	6.68	65.60	495.4	2.87	2.69	14.3	.85	8.96	395.2	3.51	21.53
61191	1	800326	39078	2.16	28.39	528.5	2.91	2.54	15.3	.30	2.48	424.8	3.71	20.64
61191	2	800328	39168	.84	6.74	519.9	2.66	2.28	16.6	.15	.35	432.3	3.86	20.47
61191	3	800401	39168	.83	5.22	578.7	3.15	2.63	15.0	.17	1.13	464.2	4.56	19.01
62105	1	800429	51900	2.62	48.20	428.5	5.80	5.34	17.3	1.01	19.32	348.4	6.90	23.21
62105	2	800501	51907	1.20	25.43	454.1	6.23	5.55	17.8	.64	17.19	367.6	7.24	22.36
62105	3	800505	51949	2.63	59.77	431.4	1.99	1.90	16.6	1.60	39.04	339.9	2.08	21.83
62105	4	800507	51988	1.91	39.16	428.6	2.74	2.56	17.9	1.07	24.06	328.8	2.73	23.97
62201	1	800310	26254	2.56	29.28	536.6	1.73	1.47	15.0	.33	.63	474.3	2.17	18.62
62201	2	800312	26290	1.61	19.53	724.5	1.06	.88	11.7	.24	.90	549.9	1.08	16.06
62201	3	800318	26337	.86	5.70	734.4	1.36	1.16	11.9	.42	1.29	629.4	1.01	14.01
62201	4	800326	26537	.79	3.08	669.1	1.72	1.51	13.1	.26	.39	457.3	1.28	19.33
66026	1	800306	29114	6.80	128.13	426.7	1.12	.92	13.7	2.20	66.82	316.2	.80	20.71
66026	2	800307	29150	2.94	94.66	474.5	1.20	1.01	14.0	.99	42.88	384.0	1.25	19.51
66026	3	800310	29193	2.37	31.04	407.5	1.87	1.59	19.1	1.48	15.13	326.6	3.04	24.98

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
70075	1	800408	32564	3.53	53.83	443.0	6.05	5.44	16.5	.41	3.09	368.7	7.40	23.65
70075	2	800410	32620	1.09	19.18	513.2	5.06	4.28	16.2	.13	.99	418.5	3.17	21.09
70075	3	800414	32665	1.27	21.33	502.9	5.82	5.23	16.4	.20	1.50	380.6	3.79	23.12
70075	4	800416	32696	1.27	14.09	535.4	1.82	1.65	15.8	.20	.61	390.7	1.86	22.60
70135	1	800404	52603	1.98	39.03	484.9	4.39	3.70	16.0	.26	2.44	421.2	6.60	20.83
70135	2	800408	52672	1.54	24.22	476.2	4.23	3.75	17.1	.19	1.74	386.7	5.47	22.74
70135	3	800411	52680	1.09	19.51	474.3	5.29	4.48	17.4	.12	.74	362.1	7.61	24.38
70141	1	800307	40381	2.91	45.44	467.0	1.47	1.26	16.2	.29	3.55	362.6	1.30	24.02
70141	2	800311	40243	1.66	22.29	493.9	1.90	1.64	16.6	.16	1.71	338.3	1.89	25.97
70141	3	800312	40423	.98	7.20	512.1	1.97	1.67	16.8	.07	.16	352.2	1.78	25.15
70156	1	800324	37766	1.89	25.43	367.4	3.12	2.65	21.5	.26	2.01	294.7	4.08	29.69
70156	2	800325	37796	1.15	12.38	387.8	3.69	3.04	21.6	.17	.79	315.0	5.31	28.00
70156	3	800327	37833	1.03	12.79	367.9	3.29	2.75	22.7	.16	1.26	284.7	4.17	30.88
70262	1	800321	42703	1.90	23.90	499.4	2.27	1.97	16.3	.29	1.71	360.2	2.92	24.38
70262	2	800325	42762	1.25	6.30	515.3	2.32	1.96	16.8	.12	.51	361.0	3.18	24.49
70262	3	800326	42800	1.05	6.45	514.2	2.10	1.86	16.8	.13	.46	360.2	2.68	24.55
70287	1	800306	45990	5.94	95.71	494.6	4.21	3.41	13.4	3.24	50.66	386.4	4.14	18.62
70287	2	800310	46044	6.61	90.97	445.8	3.14	2.69	14.5	3.58	69.17	358.0	2.57	18.55
70287	3	800313	46056	2.12	23.45	536.0	4.26	3.62	15.3	.51	4.52	452.4	6.90	19.23
70398	1	800313	58393	3.62	56.47	340.0	3.15	2.68	20.1	.69	6.01	299.6	3.97	28.50
70398	2	800319	30819	2.07	31.48	377.0	2.85	2.43	20.5	.80	9.47	321.0	4.56	26.20
70398	3	800321	30819	1.52	17.57	387.3	4.47	3.74	21.1	.26	1.45	328.4	6.46	26.75
70508	1	800304	16517	1.96	37.70	458.7	9.74	8.54	16.9	.29	2.82	381.3	10.66	22.94
70508	2	800307	16543	.58	3.27	409.1	6.13	5.19	21.3	.09	.15	355.8	10.35	24.89
70508	3	800311	16585	.68	6.03	504.7	1.56	1.33	17.2	.13	.49	385.1	2.07	22.96

TABLE 5.5-10 FTP & HFET (POST-MECHANIC TRAINING)

				FTP						HFET				
EPA NO	S	DATE	ODOM	HC	CO	CO2	NOX	NOXC	MPG	HC	CO	CO2	NOX	MPG
70626	1	800402	47170	1.25	16.75	383.9	2.20	1.77	21.4	.19	1.18	317.7	3.18	27.70
70626	2	800404	47234	1.00	9.17	381.4	1.81	1.57	22.2	.16	.62	288.3	1.89	30.60
70626	3	800409	47234	1.61	27.86	364.1	2.25	1.94	21.5	.25	1.66	299.1	2.67	29.32
70626	4	800410	47266	.61	7.01	426.0	1.55	1.28	20.2	.07	.65	348.4	1.36	25.36
71001	1	800311	48032	11.06	13.29	743.1	2.90	2.41	11.1	5.87	.97	520.9	5.11	16.39
71001	2	800314	48092	.72	9.30	696.0	2.77	2.36	12.4	.11	.22	464.1	3.97	19.08
71001	3	800318	48136	.67	8.20	693.3	2.04	1.72	12.5	.12	.34	509.3	4.08	17.38
72002	1	800402	46583	5.81	66.03	499.7	3.99	3.27	14.3	3.49	46.37	411.7	1.53	17.89
72002	2	800408	46367	3.34	41.53	546.1	3.78	3.33	14.3	2.55	41.95	391.6	1.10	19.05
72002	3	800411	46417	4.03	48.00	539.7	2.11	1.73	14.1	3.34	52.93	391.7	1.50	18.27
72002	4	800415	46452	2.18	27.06	562.5	1.45	1.29	14.5	1.54	22.48	399.7	1.55	20.16
76012	1	800403	36401	2.76	42.81	533.3	2.18	1.78	14.6	.32	2.75	444.1	2.75	19.73
76012	2	800404	36481	.89	10.64	553.2	2.09	1.75	15.5	.09	.28	445.4	2.98	19.88
76012	3	800409	36481	.71	9.13	570.3	1.74	1.48	15.1	.07	.32	424.7	1.86	20.85
76015	1	800407	55254	1.24	20.60	567.9	4.18	3.42	14.7	.06	.43	409.9	5.16	21.59
76015	2	800409	55324	.71	7.53	555.6	4.03	3.57	15.6	.05	.05	392..	1.76	22.57
76015	3	800411	55324	1.14	14.70	567.9	1.72	1.49	14.9	.10	.51	423.1	2.23	20.90
76023	1	800328	27853	2.91	40.15	499.4	2.48	2.10	15.5	.45	3.91	397.1	2.63	21.91
76023	2	800402	27889	.75	9.36	559.8	2.34	1.89	15.4	.20	1.95	442.8	2.61	19.86
76023	3	800404	27930	1.30	13.88	541.5	2.39	1.99	15.6	.23	2.35	452.7	2.82	19.40

TABLE 5.5 - 11 DIAGNOSIS AND MAINTENANCE (PRE-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
40601	Timing Rotor Gap Auto Choke	CO	17	Adjust Carb & Idle Speed	Timing Rotor Gap Auto Choke	All emissions reduced to acceptable levels.	Adjust Carb., Timing & Idle Speed. Replaced Dist. Cap & Rotor. Repaired Choke.	No Problems	Emissions further reduced, but lost fuel economy.
40602	EGR Function Vacuum Hoses Choke Operation	CO	13	Adjust Carb & Idle Speed	Idle Speed EGR Function Vacuum Hoses Choke Operation	Reduced HC and CO emissions to acceptable levels. NO_x high.	Adjust Carb., Timing & Idle Speed. Repaired Choke and EGR System. Rerouted Vacuum Hoses.	No Problems	All emissions reduced to acceptable levels.
40901	Idle Speed EGR Function Air Filter Vacuum Hoses	HC, CO	23	Adjust Carb & Idle Speed. Replaced one Plug Wire.	Idle Speed Timing & Dwell EGR Function Vacuum Hoses Air Filter	Reduced HC and CO emissions. NO_x and HC high.	Adjusted Dwell, Timing, Carb & Idle Speed. Replaced Air Filter and EGR System. Rerouted Vacuum Hoses.	No Problems	No Improvement.
41301	Idle Speed	CO	15	Adjust Carb & Idle Speed. Replaced Air Filter and PCV Filter.	Idle Speed Total Advance	HC and CO emissions high. (no improvement)	Overhauled Carb. Replaced fuel filter and Dist. Vac. Adv. Adj. Idle Speed & Timing.	No Problems	HC and CO emissions still high. (no improvement)
41501	Timing EGR Function Air Filter	CO	22	Adjust Carb Idle Speed and Timing	Air Filter Spark Plug Firing Voltage	Reduced HC and CO emissions to acceptable levels. NO_x high.	Replaced Plugs and Air Filter.	No Problems	HC and CO emissions at acceptable levels. NO_x still high.
41601	Idle Speed Air Filter Choke	HC, CO	23	Adjust Carb & Idle Speed	Total Advance Air Filter	Reduced HC and CO emissions to acceptable levels. NO_x high.	Replaced Air Filter, TVS, Dist. Cap & Rotor, and Vacuum Advance.	No Problems	No significant change to HC and CO. NO_x reduced to acceptable level.
42001	Spark Plug Firing Voltage. Cyl. compression EGR Function	CO	14	Adjust Carb & Idle Speed	Idle Speed Total Advance Spark Plug Firing Voltage Cylinder Comp. EGR Function Air Filter	HC and CO emissions reduced to acceptable limits. NO_x high.	Replaced Plugs, Air Filter, EGR, and Dist TVS. Adj Carb & Idle Speed	No Problems	HC and NO_x emissions higher.
42002	Idle Speed Timing Total Advance Spark Plug Firing Voltage Dwell EGR Function	CO	16	Adjust Carb Idle Speed and Timing	Idle Speed Timing Total Advance Spark Plug Firing Voltage Dwell EGR Function	HC and CO emissions reduced.	Replaced Plugs, EGR & Dist TVS, Vacuum Hoses, and Carb Base Plate. Adj Carb, Idle Speed, Dwell & Timing.	No Problems	Improved Fuel Economy No improvement. of emission levels.

TABLE 5.5 - 11 DIAGNOSIS AND MAINTENANCE (PRE-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
51011	EGR Function	HC, CO	31	Replaced Plugs and Wires. Overhauled Carb Adjust Idle Speed and Timing.	No Problems	HC and CO emissions reduced, CO above Federal Standards.	No further repairs or testing performed.		
51016	EGR Function Air Filter	HC, CO	41	Adjust Carb, Idle Speed, Timing.	Idle Speed Timing Mech Adv Total Adv EGR Function Air Filter	HC and NO_x emission reduced to Federal Standards. CO high.	Replaced Air Filter and EGR. Adjust Carb, Idle Speed, and Timing.	No Problems	All emissions reduced to Federal Standards.
51064	Idle Speed EGR Function Air Filter	CO	24	Adjust Carb & Idle Speed	EGR Function PCV Hose Air Filter Vacuum Hose Disconnected	CO emissions met standards before and after repair. HC and NO_x high.	Replaced Air Filter and PCV Hose. Repaired EGR. Adjust Carb, Idle Speed, and Choke.	No Problems	All emissions meet Federal Standards.
51104	No Problems	CO	42	Adjust Carb & Idle speed.	No Problems	All emissions reduced, but HC and CO still high.	Replaced Carb.	No Problems	Reduced emissions significantly. HC and CO still high.
52011	Timing Mechanical Advance Total Advance Air Filter	HC	HTS	Adj Timing, Carb & Idle Speed	Air Filter	All emissions reduced to Federal Standards.	Replaced Air Filter	No problems	No improvement
52018	Air Filter	HC, CO	41	Adjust Carb, Idle Speed, and iming	Timing Idle Speed Air Filter	All emissions reduced. HC and CO high.	Replaced Air Filter Adjust Timing, Carb & Idle Speed	No problems	CO emission reduced to Federal Standards. HC high.
52019	Idle Speed EGR Function	HC, CO	41	Adjust Carb & Idle Speed	EGR Function Spark Plug Firing Voltage.	HC and CO emissions reduced. NO_x high.	Replaced Plugs and Carb Enrichment Valve. Adjust Carb and Idle Speed.	No problems	Further reduced HC and CO emissions. No improvement of NO_x.
52057	EGR Function Vacuum Hoses	HC, CO	24	Adjust Carb & Idle Speed	Idle Speed EGR Function Vacuum Hoses	Reduced HC and CO emissions. NO_x high.	Overhauled Carb Replaced Air Filter Repaired EGR Adj Idle Speed	No problems	All emissions meet Federal Standards.
52058	No Problems	HC, CO	21	Adjust Carb & Idle Speed	No problems	No improvement. HC and CO emissions high.	Overhauled Carb Replaced Air Filter, Plugs, Dist TVS and Dist Vac Adv. Repaired PCV.	No problems	HC and CO emissions reduced, but still high.

TABLE 5.5 - 11 DIAGNOSIS AND MAINTENANCE (PRE-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
52111	Vacuum Hose Routing	CO	15	Adjust Carb & Idle Speed	Vacuum Hose Routing	All emissions reduced to Federal Standards.	Adjusted Carb & Idle Speed. Rerouted Vacuum Hoses.	No problems	Further reduced emissions.
60112	Idle Speed Timing Choke Operation	HC, CO	23	Adjust Carb, Idle Speed, and Timing	Idle Speed Timing Total Advance Vacuum Hoses Choke Operation	All emissions reduced to Federal Standards, but lost fuel economy.	Adjust Carb, Idle Speed, and Timing. Repaired Vacuum Hose.	No problems	Emissions meet Federal Standards and fuel economy improved.
60151	No Problems	HC, CO	22	Adjust Carb & Idle Speed	No Problems	All emissions reduced to Federal Standards.	Adjust Carb, Idle Speed, and Timing.	No Problems	No significant improvement.
60434	Idle Speed Spark Plug Firing Voltage EGR Function	CO	13	Adjust Carb & Idle Speed	Idle Speed Spark Plug Firing Voltage EGR Function	Reduced HC and CO emissions. NO_x high.	Replaced 1 plug Adjust Carb & Idle Speed. Repaired EGR.	No Problems	CO and NO_x reduced to Federal Standards. HC high.
60506	Air Filter	HC, CO	13	Adjust Carb & Idle Speed	Air Filter	Emissions reduced to Federal Standards.	Adjust Carb & Idle Speed. Replaced Air Filter.	No Problems	CO emission increased to above standards.
60627	Total Advance Spark Plug Firing Voltage Cyl Compression EGR Function Vacuum Hoses Air Filter	HC, CO	17	No Repair Needs Valve Job.					
60645	Idle Speed Timing EGR Function	HC, CO	13	Adjust Carb & Idle Speed	Timing EGR Function	All emissions reduced to Federal Standards.	No Repairs	(Vehicle wrecked by owner prior to restorative maintenance.)	
60663	PCV Function Vacuum Hoses (routing) Air Filter	HC, CO	23	Adjust Carb & Idle Speed	Idle Speed PCV Function Vacuum Hoses Air Filter	All emissions reduced to Federal Standards.	Repaired Vac Hoses. Replaced Air Filter. Repaired PCV System. Adjust Carb & Idle Speed.	No Problems	Improved fuel economy. NO_x high.
61000	Spark Plug Firing Voltage	HC, CO	22	Adjust Carb & Idle Speed	Spark Plug Firing Voltage	Reduced HC and CO emissions.	Replaced 1 Spark Plug. Adjust Carb & Idle Speed.	No Problems	No improvement. All emissions above Federal Standards.

TABLE 5.5 - 11 DIAGNOSIS AND MAINTENANCE (PRE-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
61002	No Problems	CO	17	Adjust Carb & Idle Speed	No Problems	No improvement HC and CO high.	Adjust Carb & Idle Speed.	No problems	No improvement. HC and CO still high.
61005	Idle Speed Air Filter	CO	11	Adjust Carb & Idle Speed	Idle Speed Air Filter	CO emissions reduced. HC and CO above Federal Standards.	Adjust Carb & Idle Speed. Replaced Air Filter.	No problems	HC and CO emissions still above Federal Standards.
61006	Idle Speed	HC, CO	17	Adjust Timing, Carb & Idle Speed. Repaired EGR Hose.	Idle Speed.	HC and CO emissions reduced, but above Federal Standards.	Replaced Plugs and Intake Manifold Gaskets. Adjust Carb & Idle Speed.	No problems	All emissions reduced to Federal Standards.
61057	Spark Plug Firing Voltage EGR Function Vacuum Hoses Air Filter	HC, CO	16	Replaced Plugs Overhauled Carb Replaced Air Filter	Vacuum Hoses	All emissions reduced to Federal Standards.	Repaired Vacuum Hoses. Adjust Carb.	No problems	Improved fuel economy.
61106	Cylinder Power Distribution Cyl Compression Air Filter	HC	17	No repair. Needs Valve Job.					
62002	Mechanical Adv EGR Function Air Filter	HC, CO	17	Adjust Carb & Idle Speed	Idle Speed Timing Mechanical Adv Total Adv EGR function Vacuum Hoses Air Filter	All emissions reduced. HC and CO above Federal Standards.	Replaced Dist Cap & Rotor. Overhauled Carb. Replaced Air Filter. Adjust Timing. Rerouted Vacuum Hoses. Repaired EGR System.	No problems	No improvement
62102	Total Advance Vacuum Hoses	HC, CO	21	Adjust Carb & Idle Speed	Idle Speed Total Advance Vacuum Hoses	Reduced HC and CO emissions, but still above Federal Standards.	Adjust Carb & Idle speed. Rerouted Vacuum Hoses.	Intake Manifold leaking.	Improved fuel economy and CO emission, but HC and CO still high.
71008	No problems	CO		This Vehicle is Fuel Injected, and repair garages were unable to adjust. No further test done.					
71015	Idle Speed Timing Air Filter	HC, CO	24	Adjust Carb & Idle Speed	Timing Air Filter	All emissions reduced to Federal Standards. Lost fuel economy.	Adjust Timing, Carb & Idle Speed. Replaced Air Filter.	No problems	Improved fuel economy. NOx high.

TABLE 5.5 - 11 DIAGNOSIS AND MAINTENANCE (PRE-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
71105	No problems	CO	24	Adjust Carb & Idle Speed	Idle Speed	No improvement. HC, CO and NO_x high.	Overhauled Carb	No problems	Reduced HC and CO emissions
71114	No problems	HC, CO	11	Replaced Plugs Adjust Timing, Carb & Idle Speed.	No Problems	HC and CO emissions reduced to Federal Standards.	Adjust Carb	No problems	All emissions meet Federal Standards.
71120	No problems	HC, CO	42	Replaced Plugs Adjust Carb & Idle Speed	No problems	HC and CO emissions reduced to Federal Standards.	Adjust Carb	No problems	Emissions meet Federal Standards Improved fuel economy.
71123	Idle Speed EGR Function	HC, CO	42	Replaced Plugs, Timing, and Air Filter. Adjust Carb, Idle Speed and Timing.	Timing	HC and CO emissions reduced, but still high (failed DEQ test).	Adjust Timing, Carb, & Idle Speed.	No problems	Reduced all emissions to Federal Standards.
72005	No problems	HC, CO		Adjust Carb & Idle Speed	No problems	Reduced HC and CO emissions, but still above Federal Standards.	Overhauled Carb · Adj Carb & Idle Speed.	No problems	Reduced HC and CO emissions to Federal Standards, but NOx high.
72007	EGR Function	HC, CO	11	Replaced Plugs, Dist Cap & Rotor and Air Filter. Adj Timing, Carb & Idle Speed.	EGR Function	Reduced HC and CO emissions but still above Federal Standards.	Replaced Carb and TVS. Repaired EGR. Adj Carb & Idle Speed.	No problems	All emissions reduced and improved fuel economy. HC and CO above Federal Standards.
72014	No problems	CO	11	Replaced Plugs. Adj Timing, Carb & Idle Speed.	Idle Speed	All emissions reduced to Federal Standards.	Adj Carb & Idle Speed.	No problems	All emissions meet Federal Standards. Improved fuel economy.
72111	Air Filter	CO	41	Adj Timing, Carb & Idle Speed.	Timing Air Filter	Reduced all emissions to Federal Standards. Lost fuel economy.	Adjust Timing, Carb & Idle Speed. Replaced Air Filter.	No problems	All emissions meet Federal Standards. Improved fuel economy.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
40603	Dwell EGR Function Vacuum Hoses Timing Indicator Missing	CO	17	Replaced PCV Valve. Adj Carb & Idle Speed	Idle Speed EGR Function Dwell Timing Indicator Missing	No improvement HC and CO extremely high.	Replaced Carburetor. Repaired EGR Valve Adjusted Dwell, Carburetor & Idle Speed	Timing Indicator Missing	HC and CO emissions reduced. Improved fuel economy.
40604	Timing Mechanical Advance Total Advance	CO	14	Adj Carb & Idle Speed	Timing Mechanical Advance Total Advance	No significant improvement. NO_x high.	Replaced Distributor Cap & Rotor. Adjusted Timing, Carburetor & Idle Speed.	No problems	Reduced CO emissions. HC and NO_x high.
40605	Timing Mechanical Advance EGR Function Air Filter Vacuum Hoses	CO	13	Adj Carb & Idle Speed	Timing Mechanical Advance EGR Function Air Filter Vacuum Hoses	Reduced HC and CO emissions to acceptable levels. NO_x high.	Replaced Plugs, Air Filter. Repaired EGR Valve. Adjusted Timing, Carburetor & Idle Speed.	Mechanical Advance does not meet Spec.	NO_x reduced to acceptable level and fuel economy improved.
41502	Idle Speed Air Filter Heat Riser	CO	22	Adj Carb & Idle Speed	Air Filter Heat Riser	HC and CO emissions reduced to acceptable levels. NO_x high.	Replaced Air Filter Repaired Heat Riser Adjusted Carburetor & Idle Speed.	No problems	CO and NO_x high.
41503	No problems	CO	22	Adj Carb & Idle Speed	No problems	Reduced HC and CO emissions to acceptable levels. NO_x high. Improved fuel economy.	Adjusted Carburetor & Idle Speed.	No problems	No improvement.
42003	Idle Speed Total Advance EGR Function Air Filter	CO	14	Adj Carb & Idle Speed	Idle Speed Total Advance EGR Function Air Filter	CO emissions reduced to acceptable level. Fuel economy improved. HC high.	Overhauled Carburetor Adj Idle Speed Replaced TVS Repaired EGR Valve	No problems	All emissions reduced to acceptable levels.
42004	Timing Total Advance Dwell EGR Function Vacuum Hoses Spark Plug Firing Voltage	CO	21	Adj Carb & Idle Speed. Replaced Vacuum Connector.	Timing Total Advance Dwell EGR Function Vacuum Hoses Spark Plug Firing Voltage	HC and CO emissions reduced. Fuel economy reduced. NO_x high.	Replaced plugs, Points & Condenser, Distributor Cap & Rotor. Adjusted Timing, Dwell, Carburetor & Idle Speed. Repaired EGR Valve and Vacuum Hoses.	No problems	No improvement to emission reduction. Improved fuel economy.
42005	EGR Function	CO	16	Adjust Carb & Idle Speed	Idle Speed EGR Function	Reduced CO emissions. HC and NO_x high.	Replaced TVS Adjusted Carb & Idle Speed.	No problems	Reduced CO & NO_x emissions. HC high.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

		MAINTENANCE PHASE					RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
50259	Spark Plug Firing Voltage	HC, CO	13	Adj Carb & Idle Speed	Spark Plug Firing Voltage	No improvement. HC and CO high.	Replaced Plugs and Carburetor. Adjusted Idle Speed.	No problems	All emissions reduced to Federal Standards.
50281	EGR Function Vacuum Hoses Air Filter	CO	41	Adj Carb & Idle Speed	EGR Function Vacuum Hoses Air Filter	HC and CO emissions before and after repair met Federal Standards. NO_x high.	Replaced Air Filter Repaired EGR System and Vacuum Hoses. Adjusted Carb & Idle Speed	No problems	All emissions reduced to Federal Standards.
50288	EGR Function Air Filter	HC, CO	24	Adj Carb & Idle Speed. Replaced PCV Valve and PCV Hose. Disconnected Vacuum Hose.	EGR Function Air Filter Vacuum Hose	HC and CO emissions reduced, but do not meet Federal Standards.	Replaced Air Filter Adjusted Carburetor & Idle Speed. Reconnected Vacuum Hose to EGR Valve.	No problems	All emissions reduced to Federal Standards.
50308	Idle Speed EGR Function Air Filter	CO	11	Replaced Air Filter. Adj Carb & Idle Speed.	EGR Function	Reduced HC and CO emissions to Federal Standards. Improved fuel economy. NO_x high.	Repaired EGR System Adjusted Carburetor & Idle Speed.	No problems	NO_x reduced, but still above Federal Standards.
50468	Air Filter	CO	24	Replaced Air Filter. Adj Carb & Idle Speed.	No problems	HC and CO emissions reduced. CO and NO_x high.	Replaced 1 plug, Vacuum Amplifier and Throttle. Position Solenoid. Adjusted Carburetor & Idle Speed.	No problems	HC and CO emissions reduced to Federal Standards. NO_x high.
51013	Timing Cylinder Power Contribution	HC, CO	13	Adj Carb & Idle Speed. Disconnected Vacuum Hose to Distributor.	Idle Speed Total Advance Cylinder Power Contribution Vacuum Hose	HC and CO emissions reduced to Federal Standards. Fuel Economy reduced.	Repaired EGR System Replaced Carburetor and Distributor Cap & Rotor. Adjusted Carburetor & Idle Speed. Reconnect Vacuum Hose.	No problems	No improvement of emissions. Improved fuel economy. NO_x high.
51055	Timing Cylinder Power Contribution	CO	41	Adj Carb & Idle Speed	Spark Plug Firing Voltage Cylinder Power Contribution	Reduced HC and CO emissions to Federal Standards. NO_x high.	Cleaned Plugs Adjust Carburetor	No problems	HC and CO emissions reduced. NO_x still high.
52001	Idle Speed Timing Mechanical Advance Total Advance EGR Function Air Filter	HC, CO	13	Adj Carb & Idle Speed	Timing Mechanical Advance Total Advance EGR Function Air Filter	Reduced HC and CO emissions. Improved fuel economy. NO_x high.	Replaced Plugs and Air Filter. Repaired EGR System and PCV System. Adjust Timing, Carburetor & Idle Speed.	No problems	Further reduced all emissions. CO still high, Lost fuel economy.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

			MAINTENANCE PHASE				RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
60095	Timing Mechanical Advance Total Advance Air System	CO	18	Unable to Repair	Timing Mechanical Advance Total Advance Air System	None	Overhauled Carburetor Repaired EGR System Replaced Air Pump & Drive Belt. Adjusted Timing, Carburetor & Idle Speed.	No problems	Reduced all emissions to Federal Standards. Reduced fuel economy
60282	Idle Speed	HC	22	Adj Carb & Idle Speed	Idle Speed	All emissions increased.	Replaced Intake Manifold Gaskets. Overhauled Carburetor.	No problems	Reduced HC and CO emissions. Improved fuel economy. NO_x high.
60302	Idle Speed	HC, CO	21	Adj Carb & Idle Speed	No problems	All emissions reduced to Federal Standards. Reduced fuel economy.	Adjusted Carburetor & Idle Speed.	No problems	CO increased.
60308	Air Filter	HC, CO	41	Adj Carb & Idle Speed	Air Filter	Reduced HC and CO emissions.	Replaced Air Filter. Repaired EGR System. Adj Carb & Idle Speed.	No problems	Further reduced HC and CO emissions, but still exceed Federal Standards.
60342	Idle Speed Timing Mechanical Advance Air Filter	HC, CO	42	Replaced Plugs and Air Filter. Adj Carb, Idle Speed and Timing.	Idle Speed Timing Total Advance	Reduced CO and increased HC emissions.	Replaced Plug Wires, Distributor Cap & Rotor, Vacuum Advance. Adj Carb, Idle Speed, and Timing.	No problems	HC, CO emissions meet Federal Standards. NO_x high. Improved fuel economy.
60371	Idle Speed Air Filter	CO	13	Adj Carb & Idle Speed	Idle Speed Air Filter	Reduced CO emissions. Lost fuel economy.	Overhauled Carburetor. Replaced Air Filter. Adj Carb & Idle Speed.	No problems	Reduced emissions to Federal Standards. Improved fuel economy.
60385	Idle Speed Spark Plug Firing Voltage	HC, CO	41	Adj Carb, Idle Speed and Timing	Idle Speed Timing Mechanical Advance Total Advance Spark Plug Firing Voltage	Reduced HC and CO emissions.	Replaced Plugs. Adj Timing, Carburetor & Idle Speed.	No problems	Further reduction of HC and CO, but HC still above Federal Standards.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

			MAINTENANCE PHASE				RESTORATIVE PHASE		
LPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
60388	Total Advance Air Filter Vacuum Hoses	HC, CO	41	Adj Carb & Idle Speed	Total Advance Air Filter Vacuum Hoses	Reduced HC and CO to Federal Standards. Improved fuel economy. NO_x high.	Replaced Air Filter Repaired Vacuum Advance Hose. Adj Carb & Idle Speed.	No problems	Additional improvement to fuel economy. NO_x higher.
60411	No problems	HC, CO	11	Overhauled Carburetor	Idle Speed	Reduced HC and CO emissions to Federal Standards. NO_x high. Improved fuel economy.	Adjusted Carb & Idle Speed.	No problems	Increased CO emissions.
60416	Timing	HC, CO	17	Overhauled Carburetor Adj Timing, Carb & Idle Speed.	No problems	Reduced HC and CO emissions to Federal Standards. Improved fuel economy.	Adj Carb & Idle Speed.	No problems	Increased CO emissions
60495	Air Filter	HC, CO	13	Adj Carb & Idle Speed	Air Filter Idle Speed	Reduced HC and CO emissions to Federal Standards. NO_x high.	Replaced Air Filter Adj Carb & Idle Speed.	No problems	Improved fuel economy.
60507	EGR System	CO	22	Adj Carb & Idle Speed	Idle Speed EGR Function	Reduced HC and CO emissions. Lost fuel economy.	Adj Carb & Idle Speed. Repaired EGR System.	No problems	All emissions reduced to Federal Standards.
60558	Timing Idle Speed	HC, CO	41	Adj Carb & Idle Speed	Timing Total Timing EGR Function Vacuum Hoses	Reduced HC and CO emissions. Lost fuel economy.	Adj Timing, Carburetor & Idle Speed. Repaired EGR System. Rerouted Vacuum Hoses.	No problems	Reduced CO emissions to Federal Standards. Improved fuel economy.
60568	Idle Speed Vacuum Hoses Air Filter	HC, CO	16	Adj Carb & Idle Speed	Idle Speed Vacuum Hoses Air Filter EGR System	Reduced HC and CO emissions to Federal Standards. NO_x high. Improved fuel economy.	Repaired EGR System. Replaced Air Filter. Rerouted Vacuum Hoses. Adj Carb & Idle Speed.	No problems	All emissions meet Federal Standards.
60584	Idle Speed EGR Function Vacuum Hoses	HC, CO	24	Adj Carb & Idle Speed	EGR Function Vacuum Hoses	Reduced HC, CO emissions. NO_x high. Improved fuel economy.	Repaired EGR System Reroute Vacuum Hoses Adjust Carburetor & Idle Speed.	No problems	All emissions reduced to Fedederal Standards
60601	Air Filter	HC, CO	21	Adj Carb & Idle Speed	Air Filter Vacuum Hose	Increased HC and CO emissions.	Replaced Air Filter Rerouted Vacuum Hose Adj Carb & Idle Speed.	No problems	Reduced all emissions, but all still high. Improved fuel economy.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
60675	Idle Speed Timing	HC, CO	13	Adj Carb & Idle Speed	No problems	Reduced HC and CO emissions to Federal Standards. Improved fuel economy.	Adjust Carburetor & Idle Speed.	No problems	No further improvement.
60708	EGR Function Vacuum Hoses Spark Plug Firing Voltage	HC, CO	11	Replaced Plugs and Air Filter. Adj Timing, Carb & Idle Speed.	EGR Function Vacuum Hoses	Reduced HC, and CO to Federal Standards. NO_x high. Lost fuel economy.	Repaired EGR System Replaced Distributor Cap & Rotor. Adjusted Carb & Idle Speed.	No problems	Reduced NO_x, but still high. Lost fuel economy.
60722	No problems	HC, CO	13	Adj Carb & Idle Speed	No problems	All emissions reduced. HC high.	Replaced Carburetor Adjusted Carburetor & Idle Speed.	No problems	HC emissions reduced. NO_x high. Lost fuel economy.
61101	Total Advance Air Filter	CO	24	Replaced Plugs and Air Filter Adj Carb & Idle Speed.	Idle Speed Total Advance EGR Function	Emissions before and after repair met Federal Standards.	Repaired Vacuum Advance Hose. Replaced EGR Valve. Adj Carb & Idle Speed.	No problems	Improved fuel economy.
61107	Idle Speed Air Filter Cylinder Power Contribution Cyl Compression	HC, CO		Vehicle had Low Compression No. 4 Cylinder. Returned to owner. No further tests.					
61191	Cylinder Power Contribution PCV Operation	HC, CO	14	Removed Carb and tightened base to body screws (loose). Adj Carb & Idle Speed.	Idle Speed PCV Operation	All emissions reduced to Federal Standards. Improved fuel economy.	Repaired PCV System. Adj Carb & Idle Speed.	No problems	Further reduced HC and CO emissions. Lost fuel economy.
62105	EGR Function Air Filter	HC, CO	41	Adj Carb & Idle Speed	Idle Speed EGR Function Air Filter	Reduced HC and CO emissions. NO_x high.	Replaced Air Filter. Repaired EGR System. Adj Carb & Idle Speed.	No problems	NO_x reduced to Federal Standards but HC and CO still high.
62201	Air Filter	HC, CO	17	Adj Carb & Idle Speed. Repaired Vacuum leak.	Air Filter	Reduced all emissions. Lost fuel economy.	Replaced Air Filter. Overhauled Carburetor. Adj Carb & Idle Speed. Rerouted Vacuum Hoses.	No problems	Reduced all emissions to Federal Standards
66026	Timing Mechanical Advance Total Advance Air Filter	CO	41	Adj Carb & Idle Speed	Idle Speed Timing Mechanical Advance Total Advance Air Filter	Reduced HC and CO emissions.	Replaced Air Filter. Adj Timing, Carb & Idle Speed.	No problems	Further reduced HC and CO emissions. Significant improvement of fuel economy.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

			MAINTENANCE PHASE				RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
70075	Idle Speed EGR Function Vacuum Hoses	HC, CO	11	Cleaned & Adj Spark Plugs. Replaced Dist Cap & Rotor. Overhauled Carburetor. Replaced Air Filter. Adj Timing, Carb & Idle Speed.	Idle Speed EGR Function Total Advance	Reduced HC and CO emissions. NO_x high.	Replaced Vacuum Advance. Adj Carb & Idle Speed. Repaired EGR System. Rerouted Vacuum Hoses.	No problems	Reduced all emissions to Federal Standards.
70135	Air Filter	CO	15	Adj Carb & Idle Speed	Air Filter	Reduced HC and CO emissions. NO_x high. Improved fuel economy.	Replaced Air Filter. Adj Carb & Idle Speed.	No problems	Further reduced HC and CO emissions. NO_x high.
70141	Vacuum Leak	HC, CO	42	Adj Carb & Idle Speed. Repaired Vacuum Hose leak.	No problems	Reduced HC and CO emissions.	Adjusted Carburetor	No problems	Reduced all emissions to Federal Standards.
70156	Idle Speed Air Filter	HC	24	Adj Carb & Idle Speed	Air Filter	Reduced HC and CO emissions to Federal Standards. NO_x high.	Replaced Air Filter. Overhauled Carburetor. Adj Carb & Idle Speed.	No problems	Improved fuel economy. No change in emissions.
70262	Total Advance Vacuum Hoses Air Filter	HC, CO	24	Adj Carb, Idle Speed and Timing. Repaired Vacuum Hose.	No problems	Reduced emissions to Federal Standards.	Adj Carb & Idle Speed.	No problems	No change.
70287	Idle Speed EGR Function Vacuum Hoses Air Filter	CO	42	Adj Carb & Idle Speed	Idle Speed EGR Function Vacuum Hoses Air Filter	No emissions improvement. Improved fuel economy.	Replaced Vacuum Amplifier for EGR. Overhauled Carburetor. Replaced Vacuum Hose, OSAC Valve and Gulp Valve. Adj Carb & Idle Speed.	No problems	Reduced HC and CO emissions. Improved fuel economy.
70398	No problems	HC, CO	18	Adj Carb & Idle Speed	No problems	Reduced HC and CO emissions.	Overhauled Carburetor Adj Carb & Idle Speed.	No problems	Further reduced HC and CO emissions. NO_x high.
70508	EGR Function	HC, CO	42	Adj Carb & Idle Speed	EGR Function Spark Plug Firing Voltage	Reduced HC and CO emissions to Federal Standards. Improved fuel economy.	Replaced Plugs, EGR Switch and PCV Valve. Adj Carb & Idle Speed.	No problems	Reduced all emissions to Federal Standards. Lost fuel economy.

TABLE 5.5 - 12 DIAGNOSIS AND MAINTENANCE (POST-MECHANIC TRAINING)

				MAINTENANCE PHASE			RESTORATIVE PHASE		
EPA NO.	INITIAL DIAGNOSIS	FAILURE	FAC	REPAIRS	DIAGNOSIS	COMMENTS	REPAIRS	DIAGNOSIS	COMMENTS
70626	Idle Speed	CO	18	Adj Carb & Idle Speed	Idle Speed	Reduced all emissions to Federal Standards. Improved fuel economy.	Adj Carb & Idle Speed.	No problems	Further reduced all emissions. Lost fuel economy.
71001	Total Advance Spark Plug Firing Voltage Gulp Valve EGR Function Vacuum Hoses	HC	41	Replaced Plugs, Cap & Rotor, and Air Filter. Overhauled Carburetor. Adj Carb & Idle Speed.	EGR Function Timing Mechanical Advance Total Advance Vacuum Hose	Reduced HC and CO emissions to Federal Standards. NO_x high. Improved fuel economy.	Replaced EGR TVS, Gulp Valve, Vacuum Hose. Adj Timing, Carburetor & Idle Speed.	No problems	Reduced all emissions to Federal Standards.
72002	Idle Speed EGR Function	HC, CO	16	Adj Timing, Carb & Idle Speed.	Idle Speed EGR Function	Reduced HC and CO emissions, but all above Federal Standards.	Replaced Carburetor & EGR Valve. Adjusted Timing, Carburetor, & Idle Speed.	No problems	All emissions reduced. HC and CO still above standards.
76012	Timing	HC, CO	22	Adj Carb & Idle Speed.	Idle Speed & Timing	Reduced all emissions to Federal Standards. Improved fuel economy.	Adj Timing, Carb, and Idle Speed.	No problems	Further reduced all emissions.
76015	Idle Speed EGR Function Air Filter	CO	11	Adj Carb & Idle Speed	Idle Speed EGR Function Air Filter	Reduced HC and CO emissions to Federal Standards. Improved fuel economy. NO_x high.	Replaced Air Filter and EGR System. Adj Carb & Idle Speed.	No problems	All emissions reduced to Federal Standards. Lost fuel economy.
76023	No problems	HC, CO	17	Adj Timing, Carb & Idle Speed	No problems	Reduced all emissions to Federal Standards.	Adj Carb & Idle Speed.	No problems	No improvement.

TABLE 5.5-13 PROPANE GAIN TEST (PRE-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
40601 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
40601 2	40	DEC	60	10	20	DEC	150	30	110	10	70	20
40601 3	150	60	190	80	170	60	280	120	270	180	160	140
40602 1	DEC	DEC	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
40602 2	200	90	220	100	160	60	90	50	110	50	80	40
40602 3	160	70	120	80	100	50	180	60	280	100	120	60
40901 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
40901 2	80	DEC	140	DEC	90	DEC	120	DEC	190	40	DEC	20
40901 3	240	20	220	20	210	10	280	20	250	20	160	10
41301 1	70	DEC	90	30	30	20	DEC	DEC	DEC	DEC	DEC	DEC
41301 2	100	30	130	40	90	50	40	20	70	40	30	30
41301 3	110	20	140	50	100	30	110	30	120	30	100	20
41501 1	DEC	DEC	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
41501 2	110	50	100	70	90	50	140	50	190	100	130	80
41501 3	140	50	160	60	110	20	100	40	110	60	50	30
41601 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
41601 2	170	30	240	70	180	50	200	80	210	90	200	80
41601 3	160	70	200	90	170	80	330	70	240	70	210	40
42001 1	DEC	DEC	DEC	DEC	DEC	DEC	20	20	40	40	10	DEC
42001 2	50	DEC	90	30	40	DEC	80	20	100	50	50	20
42001 3	100	30	150	60	80	20	140	60	180	90	120	60
42002 1	20	DEC	30	DEC	10	DEC	20	10	10	10	10	10
42002 2	80	20	80	30	60	20	DEC	DEC	20	10	10	DEC
42002 3	140	20	140	40	90	40	100	30	120	40	100	30
51011 1	50	10	80	10	50	DEC	100	30	110	40	80	20
51011 2	110	40	140	60	110	40	110	90	170	140	100	80

TABLE 5.5-13 PROPANE GAIN TEST (PRE-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
51016	40	DEC	80	20	40	DEC	70	20	90	30	30	20
51016	50	10	130	50	80	50	100	50	90	70	90	60
51016	90	10	120	30	90	10	120	50	130	80	100	90
51064	80	50	100	30	50	30	140	100	160	130	180	120
51064	120	20	140	50	120	20	100	130	110	100	120	100
51064	100	20	130	30	100	20	80	80	140	110	110	150
51104	30	DEC	20	DEC	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC
51104	60	DEC	60	20	50	10	30	20	70	20	60	40
51104	80	DEC	80	20	80	DEC	110	70	130	100	110	90
51104	90	10	90	20	70	10	80	DEC	90	DEC	70	DEC
51104	50	10	120	30	70	20	70	20	70	10	70	10
52011	60	DEC	30	DEC	N/A	N/A	30	20	80	50	N/A	N/A
52011	20	DEC	70	DEC	N/A	N/A	DEC	20	60	30	N/A	N/A
52011	40	30	80	20	N/A	N/A	DEC	DEC	50	50	N/A	N/A
52018	DEC	N/A	DEC	N/A	N/A	N/A	DEC	N/A	DEC	N/A	N/A	N/A
52018	100	N/A	80	N/A	N/A	N/A	100	N/A	80	N/A	N/A	N/A
52018	70	N/A	70	N/A	N/A	N/A	DEC	N/A	DEC	N/A	N/A	N/A
52018	50	N/A	70	N/A	N/A	N/A	DEC	N/A	DEC	N/A	N/A	N/A
52019	DEC	DEC	DEC	DEC	DEC	DEC	60	DEC	70	DEC	DEC	DEC
52019	150	70	180	80	160	60	180	70	200	130	140	110
52019	50	DEC	40	DEC	50	DEC	100	30	100	40	100	30
52057	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
52057	180	80	210	100	140	80	120	140	200	200	170	170
52057	160	50	210	60	140	50	220	90	190	90	190	70
52058	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
52058	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
52058	70	90	80	10	70	90	80	30	90	30	70	30
52058	160	30	130	30	110	30	120	20	130	20	120	10
52058	120	50	150	50	130	30	140	40	150	30	80	30
52058	100	20	110	30	90	30	110	30	80	30	100	60

TABLE 5.5-13 PROPANE GAIN TEST (PRE-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
52111 1	DEC	DEC	40	10	20	DEC	80	30	40	60	DEC	DEC
52111 2	130	40	140	70	160	20	130	70	110	60	70	60
52111 3	130	50	140	60	70	30	230	70	190	70	130	100
60112 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60112 2	150	80	160	90	150	70	190	60	180	90	80	60
60112 3	70	10	80	30	50	10	10	10	80	30	70	20
60151 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60151 2	160	20	150	40	50	20	130	40	70	40	60	50
60151 3	50	10	70	50	40	20	200	10	220	30	180	30
60434 1	140	60	120	50	60	20	70	40	190	60	140	130
60434 2	280	30	250	40	230	50	220	60	160	50	120	20
60434 3	140	30	170	50	120	40	60	30	70	60	90	50
60506 1	20	DEC	40	DEC	DEC	DEC	100	DEC	90	40	20	20
60506 2	170	40	120	40	110	DEC	120	DEC	110	DEC	120	DEC
60506 3	80	10	60	DEC	50	DEC	DEC	20	60	30	30	DEC
60627 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60645 1	DEC	DEC	20	DEC	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
60645 2	140	DEC	80	DEC	N/A	N/A	90	DEC	180	DEC	N/A	N/A
60663 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60663 2	70	30	120	60	80	30	100	50	130	90	80	50
60663 3	140	30	120	50	130	20	150	30	180	50	130	30
61000 1	DEC	DEC	30	DEC	10	DEC	70	50	120	60	90	20
61000 2	90	DEC	120	30	120	10	120	DEC	160	DEC	120	DEC
61000 3	130	DEC	150	10	60	DEC	60	DEC	90	DEC	60	DEC
61002 1	80	DEC	30	DEC	40	DEC	50	20	40	20	DEC	20
61002 2	240	50	280	80	260	60	230	70	240	80	230	80
61002 3	300	40	270	70	230	60	300	70	330	90	210	60

TABLE 5.5-13 PROPANE GAIN TEST (PRE-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
61005	20	DEC	40	DEC	DEC	DEC	50	DEC	40	DEC	40	DEC
61005	150	10	170	30	120	10	120	70	160	100	110	70
61005	110	10	100	30	90	10	130	60	170	90	130	70
61005	80	10	120	30	50	10	30	40	90	20	90	DEC
61006	DEC	DEC	40	10	30	10	DEC	DEC	DEC	DEC	DEC	DEC
61006	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
61006	130	30	150	40	100	30	160	30	170	70	70	30
61057	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
61057	DEC	DEC	10	DEC	DEC	DEC	DEC	10	DEC	DEC	DEC	DEC
61057	50	DEC	70	10	40	DEC	40	DEC	40	DEC	10	DEC
61106	260	100	240	120	180	100	300	100	340	160	240	100
62002	30	N/A	140	N/A	30	N/A	170	N/A	180	N/A	100	N/A
62002	450	N/A	460	N/A	300	N/A	370	N/A	490	N/A	320	N/A
62002	220	N/A	310	N/A	210	N/A	160	N/A	230	N/A	DEC	N/A
62002	100	N/A	200	N/A	120	N/A	DEC	N/A	DEC	N/A	DEC	N/A
62102	DEC	DEC	50	10	DEC	DEC	100	40	210	60	170	50
62102	140	30	200	70	110	40	160	60	190	110	140	130
62102	60	DEC	40	DEC	20	DEC	50	DEC	70	40	20	40
71008	DEC	N/A	DEC	N/A	N/A	N/A	DEC	N/A	DEC	N/A	N/A	N/A
71015	DEC	DEC	20	DEC	DEC	DEC	20	DEC	30	10	DEC	DEC
71015	90	40	130	60	90	60	120	120	150	150	140	120
71015	180	40	200	70	160	50	110	140	160	200	180	150
71015	130	40	140	50	110	30	160	40	160	50	150	50
71105	90	DEC	280	80	70	DEC	170	100	160	60	241	630
71105	250	20	340	40	220	30	270	150	140	150	270	140
71105	230	30	250	30	180	DEC	270	130	370	180	270	150
71105	310	70	420	140	320	80	30	20	120	50	30	30

TABLE 5.5-13 PROPANE GAIN TEST (PRE-MECHANIC TRAINING)

		PRE-TEST						POST-TEST					
		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO	S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
71114	1	10	DEC	40	10	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC
71114	2	140	50	140	60	100	50	DEC	DEC	DEC	DEC	DEC	DEC
71114	3	130	30	160	50	100	50	130	60	130	60	90	60
71120	1	30	DEC	20	DEC	DEC	DEC	30	DEC	30	70	292	634
71120	2	80	DEC	140	DEC	90	DEC	100	50	120	70	190	60
71120	3	70	10	120	30	70	10	240	50	230	70	150	50
71120	4	70	DEC	100	DEC	60	DEC	DEC	DEC	50	DEC	20	DEC
71123	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
71123	2	DEC	DEC	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
71123	3	100	10	160	20	120	10	80	40	80	60	30	50
71123	4	70	10	170	30	110	10	120	DEC	90	DEC	130	DEC
72005	1	DEC	DEC	DEC	DEC	DEC	DEC	10	DEC	10	DEC	DEC	DEC
72005	2	100	40	100	40	140	50	130	60	150	80	100	60
72005	3	190	50	210	70	160	50	170	100	190	100	130	70
72007	1	40	DEC	80	10	40	DEC	60	20	80	30	40	20
72007	2	140	10	160	20	130	DEC	180	190	210	120	230	110
72007	3	40	DEC	100	DEC	30	DEC	80	10	80	10	40	10
72007	4	40	DEC	60	20	20	DEC	60	DEC	70	DEC	20	DEC
72014	1	20	DEC	50	20	20	DEC	40	30	60	20	40	30
72014	2	140	20	140	30	100	10	150	140	120	100	DEC	DEC
72014	3	160	50	200	80	160	70	120	90	150	100	120	80
72111	1	DEC	DEC	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
72111	2	50	DEC	80	30	50	DEC	130	30	130	50	150	30
72111	3	40	DEC	60	DEC	40	DEC	120	20	130	40	70	20

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
40603 1	DEC	DEC	40	30	DEC	DEC	DEC	DEC	90	30	DEC	DEC
40603 2	110	40	140	60	120	40	110	40	170	50	110	40
40603 3	80	30	110	30	80	30	230	60	110	80	70	50
40604 1	90	30	120	60	100	50	DEC	DEC	DEC	DEC	DEC	DEC
40604 2	110	30	100	50	120	10	40	20	70	40	DEC	70
40604 3	130	40	120	60	90	20	120	70	190	80	140	80
40605 1	70	DEC	50	20	50	10	DEC	DEC	50	DEC	DEC	DEC
40605 2	100	20	150	40	70	20	50	10	80	30	50	20
40605 3	50	10	90	30	80	10	160	20	200	50	140	30
41502 1	20	DEC	70	10	20	DEC	50	DEC	20	DEC	DEC	DEC
41502 2	160	40	190	50	140	30	130	20	190	60	160	10
41502 3	70	10	140	60	50	10	30	DEC	120	30	DEC	DEC
41503 1	DEC	DEC	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
41503 2	30	DEC	100	10	30	DEC	DEC	DEC	DEC	DEC	DEC	DEC
41503 3	100	10	120	30	100	20	120	DEC	130	30	70	10
42003 1	40	DEC	10	DEC	10	DEC	DEC	DEC	DEC	10	DEC	DEC
42003 2	80	30	150	70	80	40	40	10	60	40	30	10
42003 3	250	60	290	130	240	80	150	10	220	70	110	40
42004 1	DEC	DEC	50	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
42004 2	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
42004 3	90	20	160	50	110	20	40	DEC	100	30	40	10
42004 4	90	20	130	50	80	20	DEC	DEC	DEC	DEC	DEC	DEC
42005 1	DEC	DEC	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
42005 2	100	40	140	40	80	40	DEC	DEC	DEC	DEC	DEC	DEC
42005 3	180	150	220	290	160	110	250	120	310	240	250	250

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

		PRE-TEST						POST-TEST					
		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO	S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
50259	1	50	10	70	10	50	DEC	DEC	DEC	DEC	DEC	DEC	DEC
50259	2	DEC	DEC	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
50259	3	110	30	130	50	120	20	100	DEC	100	20	90	20
50281	1	70	10	70	30	40	10	DEC	DEC	DEC	DEC	DEC	DEC
50281	2	170	20	180	40	130	40	80	10	100	30	60	20
50281	3	80	30	100	40	70	20	80	10	70	10	40	10
50288	1	DEC	DEC	10	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
50288	2	110	10	130	30	100	10	40	30	180	30	130	20
50288	3	150	30	150	60	140	30	230	120	400	100	100	130
50308	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
50308	2	180	70	210	80	160	60	260	90	250	120	100	90
50308	3	70	20	90	20	60	20	110	10	100	30	60	30
50308	4	80	10	60	20	50	DEC	50	20	60	20	20	20
50468	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
50468	2	90	10	100	20	70	10	30	DEC	30	DEC	DEC	DEC
50468	3	140	60	170	60	110	50	140	10	100	20	80	10
51013	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
51013	2	140	40	150	40	150	40	90	30	170	60	120	40
51013	3	300	110	340	140	280	90	30	DEC	100	DEC	80	DEC
51013	4	130	20	140	30	110	30	90	10	120	20	90	20
51055	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
51055	2	50	20	70	50	70	10	20	30	40	60	10	20
51055	3	80	40	120	50	90	40	50	50	70	30	30	30
52001	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
52001	2	90	20	80	30	60	20	20	DEC	DEC	DEC	10	DEC
52001	3	120	10	140	20	140	20	120	20	140	20	120	20

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
60095 1	140	N/A	140	N/A	130	N/A	60	N/A	40	N/A	10	N/A
60095 3	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A
60282 1	250	60	170	50	180	50	200	60	220	50	190	DEC
60282 2	70	10	90	10	40	DEC	50	10	70	20	40	10
60282 3	70	20	100	60	80	20	90	30	80	70	80	40
60302 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60302 2	90	40	140	30	110	20	180	40	180	30	150	30
60302 3	60	20	80	20	50	10	DEC	DEC	DEC	DEC	DEC	DEC
60308 1	10	DEC	30	DEC	10	DEC	30	DEC	60	DEC	DEC	10
60308 2	60	10	90	30	80	20	90	10	100	30	50	20
60308 3	130	40	160	50	110	30	150	40	150	50	130	30
60342 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60342 2	200	80	210	130	180	60	160	90	190	80	170	80
60342 3	150	30	160	50	120	40	160	30	130	60	80	40
60342 4	110	30	110	40	90	30	DEC	DEC	DEC	DEC	DEC	DEC
60371 1	90	N/A	80	N/A	N/A	N/A	DEC	N/A	DEC	N/A	N/A	N/A
60371 2	220	N/A	240	N/A	N/A	N/A	130	N/A	DEC	N/A	N/A	N/A
60371 3	120	N/A	140	N/A	N/A	N/A	190	N/A	100	N/A	N/A	N/A
60385 1	DEC	DEC	DEC	DEC	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
60385 2	80	90	110	60	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
60385 3	120	30	120	40	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
60388 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60388 2	90	20	130	40	100	30	90	30	90	30	50	20
60388 3	60	DEC	90	10	50	DEC	60	DEC	60	DEC	DEC	DEC
60411 1	30	DEC	60	DEC	30	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60411 2	190	50	240	80	160	50	270	90	300	120	240	90
60411 3	80	DEC	90	10	70	10	100	10	130	20	40	10

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
60416 1	60	DEC	80	10	30	DEC	30	DEC	60	DEC	30	DEC
60416 2	140	40	160	30	120	40	150	20	190	30	140	30
60416 3	80	10	90	20	60	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60495 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60495 2	290	60	360	90	270	60	280	70	300	70	290	60
60495 3	70	10	80	10	40	DEC	40	DEC	40	DEC	10	DEC
60507 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60507 2	50	20	60	20	50	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60507 3	90	20	130	30	110	20	50	20	100	30	50	20
60558 1	30	DEC	50	DEC	40	DEC	10	DEC	10	DEC	10	DEC
60558 2	60	DEC	20	DEC	40	DEC	40	DEC	20	DEC	20	DEC
60558 3	120	30	80	40	100	40	80	30	100	30	60	20
60568 1	40	DEC	120	20	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60568 2	180	DEC	210	10	160	DEC	DEC	60	DEC	DEC	400	DEC
60568 3	90	DEC	130	DEC	90	DEC	130	DEC	150	DEC	80	DEC
60584 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60584 2	150	30	160	40	170	30	110	20	110	20	70	20
60584 3	120	10	150	30	90	20	140	30	140	40	100	10
60601 1	50	DEC	50	DEC	30	DEC	90	10	80	20	20	DEC
60601 2	60	10	70	10	40	DEC	50	10	40	10	30	DEC
60601 3	100	20	100	30	90	20	140	50	160	40	130	40
60601 4	70	DEC	80	10	60	20	50	10	80	10	40	20
60675 1	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A
60675 2	280	N/A	310	N/A	250	N/A	250	N/A	260	N/A	190	N/A
60675 3	90	N/A	120	N/A	100	N/A	DEC	N/A	DEC	N/A	DEC	N/A

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

	PRE-TEST						POST-TEST					
	PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
60708 1	30	DEC	60	DEC	20	DEC	DEC	DEC	20	DEC	20	DEC
60708 2	420	170	450	220	400	170	280	120	380	140	350	130
60708 3	110	40	120	40	100	30	140	50	170	60	150	50
60722 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
60722 2	120	40	120	50	100	40	120	40	130	40	100	40
60722 3	180	70	150	70	160	50	140	50	140	50	140	50
61101 1	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A	DEC	N/A
61101 2	180	N/A	280	N/A	200	N/A	DEC	N/A	DEC	N/A	DEC	N/A
61101 3	30	N/A	80	N/A	20	N/A	60	N/A	20	N/A	80	N/A
61107 1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
61191 1	20	DEC	30	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
61191 2	120	60	170	80	130	60	140	20	170	70	120	60
61191 3	170	40	220	60	170	50	160	40	190	50	160	20
62105 1												
62105 2	180	90	200	70	150	90	160	60	140	100	160	50
62105 3	90	40	120	50	80	50	DEC	DEC	DEC	DEC	DEC	DEC
62105 4	60	10	50	20	40	10	DEC	DEC	30	DEC	DEC	DEC
62201 1	DEC	DEC	40	DEC	20	DEC	160	40	190	50	180	50
62201 2	110	30	180	40	110	40	100	30	130	10	80	20
62201 3	180	60	200	70	170	60	220	70	230	80	190	90
62201 4	230	90	280	100	230	80	340	100	470	120	360	90
66026 1	DEC	DEC	DEC	DEC	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
66026 2	DEC	DEC	DEC	DEC	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A
66026 3	80	30	60	20	N/A	N/A	DEC	DEC	DEC	DEC	N/A	N/A

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

		PRE-TEST						POST-TEST					
		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO	S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
70075	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70075	2	10	DEC	20	10	DEC	DEC	80	DEC	80	10	40	DEC
70075	3	60	10	80	20	70	10	20	DEC	10	10	DEC	DEC
70075	4	50	10	70	20	50	20	20	DEC	50	DEC	20	DEC
70135	1	10	DEC	20	DEC	10	DEC	120	30	90	30	80	20
70135	2	110	20	140	50	110	30	100	40	130	40	100	40
70135	3	100	20	140	40	90	30	170	60	210	80	130	50
70141	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70141	2	90	DEC	80	DEC	80	DEC	80	DEC	40	DEC	DEC	DEC
70141	3	240	30	270	40	210	40	300	40	300	50	280	50
70156	1	100	20	160	50	110	30	DEC	DEC	50	10	DEC	DEC
70156	2	180	30	220	90	160	40	50	90	50	70	50	10
70156	3	230	80	280	100	240	60	370	80	280	240	170	120
70262	1	20	DEC	30	10	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70262	2	220	50	230	60	210	50	220	80	220	90	220	80
70262	3	80	20	100	30	70	20	80	40	100	50	60	30
70287	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70287	2	70	10	110	20	70	20	80	30	110	40	70	20
70287	3	140	60	200	80	150	50	150	60	200	90	150	70
70398	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70398	2	160	60	270	110	150	50	200	60	290	90	220	60
70398	3	120	DEC	160	60	120	20	120	DEC	110	40	20	DEC
70508	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70508	2	120	DEC	170	10	120	DEC	120	DEC	160	DEC	120	DEC
70508	3	110	20	130	50	120	20	70	DEC	90	40	170	10

TABLE 5.5-14 PROPANE GAIN TEST (POST-MECHANIC TRAINING)

		PRE-TEST						POST-TEST					
		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D		PCV IN PLACE		PCV REMOVED		PCV HOSE REM'D	
EPA NO	S	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE	NEUTRAL	DRIVE
70626	1	20	DEC	120	20	20	DEC	DEC	DEC	DEC	DEC	DEC	DEC
70626	2	120	20	160	50	120	20	DEC	DEC	40	10	DEC	DEC
70626	3	160	20	200	70	160	20	20	DEC	30	DEC	50	DEC
70626	4	120	40	240	50	150	30	70	20	250	80	120	20
71001	1	210	90	230	140	150	90	180	70	210	130	130	100
71001	2	130	40	140	70	100	40	110	20	120	40	70	20
71001	3	100	50	150	80	110	40	200	100	240	130	210	100
72002	1	30	DEC	80	10	DEC	DEC	20	DEC	90	DEC	30	DEC
72002	2	260	50	350	80	240	60	290	30	350	70	260	30
72002	3	110	DEC	170	10	80	DEC	190	DEC	210	DEC	130	DEC
72002	4	90	20	220	30	110	30	220	20	180	20	240	30
76012	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
76012	2	40	20	80	40	40	30	DEC	DEC	DEC	DEC	DEC	DEC
76012	3	110	20	13	40	90	30	60	20	110	30	90	DEC
76015	1	20	DEC	40	DEC	DEC	DEC	10	DEC	20	DEC	30	DEC
76015	2	220	120	260	140	230	100	220	70	240	100	200	90
76015	3	80	10	100	30	50	10	70	10	110	20	60	10
76023	1	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC
76023	2	130	30	130	40	60	20	80	20	160	30	120	30
76023	3	80	10	100	40	70	10	80	DEC	100	30	50	10

TABLE 5.5-15 TIRE PRESSURE CHECKS (PRE-MECHANIC TRAINING)

EPA NO	AS RECEIVED LF	RF	LR	RR	SPECIFICATIONS LF	RF	LR	RR	TEMP
40601	31	32	31	16	27	27	26	26	78
40602	30	30	30	30	27	27	26	26	75
40901	28	28	27	28					76
41301	28	27	28	26	24	24	24	24	75
41501	31	31	31	31	26	26	32	32	76
41601	30	15	26	22	26	26	30	30	76
42001	28	28	30	28					76
42002	23	22	27	26					75
51011	26	26	29	30	28	28	28	28	70
51016	26	28	20	27	24	24	26	26	68
51064	30	30	30	30					77
51104	36	32	20	28	26	26	28	28	73
52011	24	24	10	28	24	24	26	26	75
52018	24	15	28	30	24	24	26	26	73
52019	16	28	28	29	28	28	30	30	75
52057	26	24	34	16	28	28	32	32	70
52058	16	34	31	33					71
52111	28	28	35	28	28	28	32	32	75
60112	22	21	20	20					77
60151	34	34	20	22	28	28	30	30	77
60434	29	29	29	29	28	28	30	30	75
60506	19	28	27	27	26	26	26	26	77
60627	32	32	32	32	26	26	32	32	77
60645	32	26	31	34	24	24	24	24	75
60663	28	12	30	12	24	24	24	24	78
61000	24	29	31	12	24	24	24	24	77
61002	26	24	30	30	24	24	24	24	77
61005	32	32	34	30	32	32	32	32	71
61006	20	24	22	22	30	30	30	30	69
61057	29	26	30	31					76
61106	16	22	36	36					77
62002	16	20	24	28					75
62102	30	32	30	30	28	28	28	28	71
71008	27	26	23	23	27	27	31	31	70
71015	24	24	24	24					73
71105	24	16	20	34					74
71114	26	28	26	28	28	28	28	28	77
71120	29	26	34	30					75
71123	36	36	30	32	24	24	28	28	77
72005	18	20	26	26	26	26	32	32	75
72007	32	31	34	30					80
72014	16	16	24	26	24	24	32	32	75
72111	28	30	28	36	26	26	32	32	75

TABLE 5.5-16 TIRE PRESSURE CHECKS (POST-MECHANIC TRAINING)

EPA NO	AS RECEIVED LF	RF	LR	RR	SPECIFICATIONS LF	RF	LR	RR	TEMP
40603	26	23	21	20	27	27	28	28	75
40604	27	27	28	28	27	27	28	28	72
40605	23	23	30	30	28	28	32	32	72
41502	22	20	26	24	28	28	30	30	75
41503	18	19	05	20					75
42003	30	30	36	31					70
42004	24	22	28	14					72
42005	20	22	22	22					73
50259	33	30	32	22	24	24	26	26	72
50281	27	25	26	28	28	28	32	32	74
50288	25	25	14	23					75
50308	22	26	22	22	28	28	32	32	72
50468	33	28	30	29	26	26	28	28	73
51013	24	26	24	24	28	28	28	28	73
51055	26	24	26	25	28	28	32	32	73
52001	27	23	26	28	24	24	28	28	74
60095	27	30	18	26					75
60282	25	24	24	24	28	28	32	32	75
60302	24	25	24	25	28	28	30	30	73
60308	30	30	30	30	26	26	28	28	71
60342	32	32	46	34	32	32	32	32	72
60371	22	24	24	30	24	24	24	24	72
60385	22	23	24	24	24	24	28	28	72
60388	24	24	18	22	28	28	32	32	73
60411	28	28	28	28	28	28	28	28	74
60416	33	32	32	32	24	24	28	28	74
60495	28	25	24	28	28	28	32	32	75
60507	30	36	26	27	26	26	32	32	73
60558	27	24	23	22	28	28	28	28	70
60568	20	20	28	27					75
60584	26	28	30	30	26	26	32	32	74
60601	29	26	25	25	32	32	34	34	73
60675	24	22	24	24					73
60708	30	30	30	28	28	28	28	28	70
60722	32	32	32	32	26	26	32	32	73
61101	30	31	32	34					73
61107	32	32	36	36	28	28	28	28	71
61191	16	18	16	19	24	24	24	24	75
62105									99
62201	23	23	24	24	28	28	32	32	75

TABLE 5.5-16 TIRE PRESSURE CHECKS (POST-MECHANIC TRAINING)

EPA NO	AS RECEIVED LF	RF	LR	RR	SPECIFICATIONS LF	RF	LR	RR	TEMP
66026	20	28	22	16	26	26	30	30	74
70075	28	28	28	28	28	28	28	28	72
70135	28	32	30	28	26	26	32	32	70
70141	24	28	29	30	24	24	24	24	73
70156	23	25	24	24					74
70262	30	21	30	30	26	26	32	32	71
70287	30	30	30	30	26	26	32	32	73
70398	18	28	31	31					74
70508	34	72	24	64					75
70626	30	26	27	26					70

TABLE 5.5 - 17

COMPOSITE OF TEST RESULTS (PRE-MECHANIC TRAINING)

		INITIAL	AFTER REPAIR	% REDUCTION (INCREASE)	AFTER RESTORATIVE MAINTENANCE	% ADDITIONAL REDUCTION (INC)	TOTAL REDUCTION (INC)
	HC	3.39 gpm	1.98 gpm	42%	1.89 gpm	2%	44%
	CO	50.61 gpm	26.45 gpm	48%	19.56 gpm	13%	61%
FTP	NO_xc	2.48 gpm	2.31 gpm	7%	2.35 gpm	(2%)	5%
	CO_2	513.63 gpm	560.10 gpm	(9%)	554.66 gpm	1%	(8%)
	MPG	15.24 mpg	15.20 mpg	0%	15.60 mpg	(3%)	(3%)
	HC	1.08 gpm	0.72 gpm	33%	0.65 gpm	6%	40%
	CO	16.01 gpm	10.38 gpm	35%	6.14 gpm	26%	62%
HFET	NO_x	3.96 gpm	3.39 gpm	14%	3.44 gpm	(1%)	13%
	CO_2	408.11 gpm	425.12 gpm	(4%)	415.85 gpm	2%	(2%)
	MPG	20.06 mpg	20.69 mpg	(3%)	21.47 mpg	(4%)	(7%)

VEHICLE MAKE-UP	1974	1975	1976	1977	TOTAL
	8	10	13	9	40

NOTES:
1. EPA Nos. 60627, 61106, & 71108 vehicles were not used in the composite. (Only initital test performed.)
2. EPA Nos. 51011 and 60645 were not restored. "After Repair" data was also used for "After Restorative Maintenance" data in composite.

TABLE 5.5 - 18

COMPOSITE OF TEST RESULTS (POST-MECHANIC TRAINING)

		INITIAL	AFTER REPAIR	% REDUCTION (INCREASE)	AFTER RESTORATIVE MAINTENANCE	% ADDITIONAL REDUCTION (INC)	TOTAL REDUCTION (INC)
	HC	3.19 gpm	1.88 gpm	41%	1.62 gpm	8%	49%
	CO	44.07 gpm	25.38 gpm	42%	14.69 gpm	25%	67%
FTP	NO_xc	2.96 gpm	2.99 gpm	(1%)	2.77 gpm	8%	7%
	CO_2	514.76 gpm	549.93 gpm	(7%)	549.23 gpm	0%	(7%)
	MPG	15.54 mpg	15.70 mpg	(1%)	16.10 mpg	(4%)	(5%)
	HC	1.08 gpm	0.64 gpm	41%	0.51 gpm	12%	53%
	CO	12.48 gpm	10.18 gpm	18%	3.35 gpm	55%	73%
HFET	NO_x	4.24 gpm	4.19 gpm	1%	3.93 gpm	6%	7%
	CO_2	404.66 gpm	420.37 gpm	(4%)	411.28 gpm	2%	(2%)
	MPG	21.51 mpg	21.17 mpg	2%	21.99 mpg	(4%)	(2%)

VEHICLE MAKE-UP	1974	1975	1976	1977	TOTAL
	8	8	24	14	54

NOTES: 1. EPA No. 61107 was not used in the composite (only initial test performed).
2. EPA No. 60095 was unable to be repaired by repair facilities. Initial data was also used for "After Repair" data in composite.

APPENDIX B - IDLE TEST RESULTS

Legend

HC - Hydrocarbon (Hexane) Emissions in Parts per Million (ppm)

CO - Carbon Monoxide in Percent

RPM - Engine Idle RPM

NO_x - Oxides of Nitrogen in ppm

1ST - Initial Idle Test

2500 - High Idle Test

2ND - Second Idle Test

S - Pass/Fail Status (1 = Pass, 2 = Fail, 3 = Fail-Disconnect,
5 = Fail-Smoke, 6 = Fail-Idle RPM and Smoke,
7 = Fail-Smoke and Disconnect,
9 = Fail-RPM and Disconnect)

SEQ - 0 = Initial Test

M = After Maintenance Retest

1 = 1st Retest (1-3 mo. after Initial Test)

R = After Restorative Maintenance Retest

C = Check 1 month after Restorative Maintenance

2 = 6 Month Retest

3 = 9 Month Retest

4 = 12 Month Retest

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DEQ IDLE TEST HC 1ST	DEQ IDLE TEST HC 2500	DEQ IDLE TEST HC 2ND	S	DEQ IDLE TEST CO 1ST	DEQ IDLE TEST CO 2500	DEQ IDLE TEST CO 2ND	S	DEQ IDLE TEST RPM 1ST	DEQ IDLE TEST RPM 2ND	S	HTS IDLE TEST HC 1ST	HTS IDLE TEST HC 2500	HTS IDLE TEST HC 2ND	HTS IDLE TEST CO 1ST	HTS IDLE TEST CO 2500	HTS IDLE TEST CO 2ND	HTS IDLE TEST NOX 1ST	HTS IDLE TEST NOX 2500	HTS IDLE TEST NOX 2ND	HTS IDLE TEST RPM 1ST	HTS IDLE TEST RPM 2ND
51000	0	0085	0080	0105	1	01.0	00.9	00.6	1	0700	0700	1	0090	0030	0050	01.1	00.2	01.0	0020	0120	0020	0650	0710
51000	1	0060	0045	0065	1	01.2	00.7	01.1	1	0700	0700	5	0130	0030	0120	00.9	00.1	01.2	0050	0100	0050	0630	0690
51000	2												0080	0030	0050	01.8	00.2	01.7	0060	0120	0070	0680	0720
51000	3												0090	0020	0080	00.8	00.3	00.9	0060	0140	0070	0620	0680
51000	4	0200	0085	0140	1	00.6	00.9	00.3	1	0600	0600	1	0240	0060	0130	00.3	00.3	00.8	0060	0140	0070	0590	0620
51001	0	0065	0100	0340	1	00.4	01.1	00.1	1	0800	0800	1	0190	0130	0280	01.6	00.4	02.4	0100	0250	0120	0720	0760
51001	1	0095	0030	0120	1	00.7	00.1	00.6	1	0700	0700	1	0220	0060	0140	01.0	00.5	01.0	0100	0230	0100	0710	0720
51001	2												0200	0090	0180	02.9	01.1	02.1	0110	0300	0120	0660	0670
51001	3												0140	0060	0090	00.6	00.3	00.7	0140	0410	0160	0740	0860
51001	4	0090	0095	0065	1	02.0	01.2	00.7	1	1000	1000	1	0100	0060	0090	01.2	01.6	02.7	0130	0300	0150	0860	1040
51002	0	0220	0170	0125	1	00.1	01.5	00.3	1	0650	0650	1	0260	0060	0340	00.2	00.1	00.0	0080	0390	0070	0660	0670
51002	1	0115	0055	0100	1	00.1	00.1	00.1	1	0725	0725	1	0160	0030	0170	00.1	00.2	00.1	0080	0380	0090	0690	0680
51002	2												0190	0020	0090	00.1	00.1	00.3	0100	0310	0100	0700	0720
51002	3												0100	0020	0050	00.1	00.1	00.3	0090	0310	0110	0760	0780
51002	4	0105	0035	0180	1	00.1	00.0	00.1	1	0775	0800	1	0090	0020	0080	00.1	00.0	00.2	0060	0200	0070	0800	0780
51003	0	0045	0060	0050	1	01.0	00.2	00.9	1	0900	0900	1	0120	0050	0100	01.9	00.2	01.6	0070	0160	0080	0590	0600
51004	0	0110	0085	0170	1	00.0	00.1	00.0	1	1000	1000	1	0100	0020	0080	00.0	00.0	00.0	0070	0200	0070	0850	0880
51004	1	0020	0015	0040	1	00.0	00.0	00.0	1	1075	1075	2	0250	0030	0150	00.0	00.0	00.0	0080	0200	0080	0960	0960
51005	0	0090	0020	0100	1	01.6	00.2	01.5	1	0800	0800	1	0160	0080	0270	00.8	00.6	00.6	0060	0140	0050	0700	0690
51005	1	0130	0035	0140	1	01.1	00.4	00.8	1	0700	0700	1	0240	0040	0220	00.3	00.4	00.2	0060	0110	0060	0660	0690
51005	2												0220	0030	0230	00.7	00.4	00.6	0060	0100	0050	0710	0750
51005	3												0160	0060	0160	01.1	00.5	00.8	0070	0120	0070	0740	0760
51005	4	0025	0240	0045	1	00.4	00.3	00.5	1	1175	1100	1	0010	0140	0030	00.3	00.5	00.3	0070	0130	0070	0900	0920
51006	0	0045	0020	0035	1	01.0	00.2	00.8	1	0800	0800	1	0070	0030	0050	01.3	00.1	00.8	0060	0160	0080	0750	0760
51006	1	0065	0045	0070	1	01.8	00.2	02.1	2	0750	0800	1	0170	0030	0060	04.7	00.2	01.3	0090	0160	0080	0700	0810
51006	2												0060	0020	0050	01.0	00.1	00.9	0060	0130	0060	0770	0800
51006	3												0040	0020	0040	00.6	00.1	00.6	0080	0180	0090	0780	0810
51006	4	0040	0030	0065	1	01.0	00.1	00.8	1	0775	0800	1	0040	0010	0030	01.1	00.1	00.7	0080	0210	0080	0800	0800
51007	0	0065	0060	0070	1	00.0	01.0	00.5	1	0650	0700	1	0080	0040	0150	00.3	00.2	00.0	0100	0180	0100	0760	0770
51007	1	0075	0025	0060	1	02.2	00.2	01.5	2	0700	0700	1	0090	0040	0070	00.1	00.1	00.0	0090	0130	0080	0760	0760
51007	2												0020	0010	0020	00.0	00.1	00.0	0080	0130	0080	0850	0860
51007	3												0030	0010	0020	01.3	00.1	01.2	0100	0100	0100	1100	1100
51007	4	0035	0030	0035	1	00.1	00.1	00.1	1	1250	1200	2	0010	0010	0020	00.1	00.2	00.1	0090	0120	0100	1050	1020
51008	0	0115	0090	0195	1	00.9	00.7	00.9	1	0800	0800	1	0140	0060	0130	01.1	00.2	00.8	0060	0210	0060	1030	0830
51008	1	0105	0075	0170	1	01.1	00.5	01.0	1	0800	0800	1	0140	0070	0140	00.6	00.6	00.6	0040	0120	0060	0730	0780
51008	2												0100	0060	0100	00.7	00.2	00.7	0060	0150	0060	0800	0810
51008	3												0120	0050	0100	00.6	00.1	00.6	0080	0210	0080	0740	0810
51008	4	0075	0065	0340	1	01.4	00.1	01.3	1	1000	1000	1	0080	0030	0080	01.5	00.1	01.5	0050	0160	0060	0920	0950
51009	0	0035	0025	0120	1	00.8	00.1	00.9	1	1050	1050	1	0120	0060	0100	01.0	00.5	00.9	0040	0080	0050	0930	0990
51009	1	0030	0025	0065	1	00.8	00.3	00.7	1	0900	0900	1	0070	0020	0060	01.0	00.3	01.0	0060	0120	0060	0880	0890
51009	2												0060	0010	0050	01.1	00.3	01.0	0040	0100	0040	0900	0950
51009	3												0050	0020	0040	00.9	00.4	00.9	0070	0120	0070	0930	0990
51010	0	0130	0075	0100	1	00.0	00.0	00.0	1	0800	0800	1	0280	0030	0200	00.0	00.0	00.0	0050	0200	0060	0780	0800
51010	1	0130	0175	0140	1	00.0	00.0	00.0	1	0800	0800	1	0330	0020	0170	00.0	00.0	00.0	0040	0170	0040	0750	0740
51010	2												0300	0010	0200	00.0	00.0	00.0	0050	0200	0070	0790	0860
51010	3												0140	0020	0100	00.0	00.0	00.0	0090	0230	0070	0870	0830
51010	4	0185	0045	0135	1	00.0	00.0	00.0	1	0825	0850	1	0170	0030	0130	00.0	00.3	00.0	0060	0150	0070	0750	0760

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	HTS IDLE CO 1ST	HTS IDLE CO 2500	HTS IDLE CO 2ND	IDLE TEST VOX 1ST	IDLE TEST VOX 2500	IDLE TEST VOX 2ND	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND
51011	0	0175	0155	0310	1	01.3	02.3	00.9	1	0800	0800	1	0360	0140	0360	00.4	02.3	00.6	0070	0260	0080	0740	0750
51011	1	0195	0120	0220	1	02.7	02.6	01.8	2	0800	0800	1	0230	0090	0150	00.9	01.9	00.7	0080	0140	0080	0820	0790
51011	2												0420	0130	0500	00.3	02.1	00.4	0080	0180	0100	0660	0680
51011	3												0200	0120	0240	02.1	03.1	02.7	0130	0200	0140	0830	0820
51011	4	0280	0195	0290	2	01.4	02.1	01.2	2	0850	0850	1	0340	0120	0270	00.6	01.9	01.3	0090	0180	0100	0760	0800
51012	0	0075	0075	0080	1	00.0	00.6	00.0	1	0900	0900	1	0120	0050	0100	00.2	00.1	00.2	0090	0170	0080	0820	0820
51013	0	0100	0085	0080	1	00.0	00.0	00.0	1	0600	0600	1	0170	0030	0130	00.0	00.2	00.0	0070	0240	0080	0650	0660
51013	1	0115	0095	0110	1	00.0	00.0	00.0	1	0650	0650	1	0180	0040	0130	00.0	00.0	00.0	0060	0390	0060	0650	0690
51013	2												0180	0270	0120	00.0	00.0	00.0	0050	0270	0070	0540	0540
51013	3												0080	0230	0040	00.0	00.0	00.0	0080	0220	0080	0630	0640
51013	4	1350	0475	1315	2	03.7	00.1	04.6	2	0550	0550	1	2870	0490	1210	05.7	00.4	03.1	0150	0350	0120	0680	0700
51014	0	0215	0065	0215	1	00.0	00.1	00.0	1	0550	0550	1	0290	0050	0230	00.1	00.1	00.0	0040	0120	0040	0550	0540
51014	1	0090	0040	0165	1	00.0	00.1	00.0	1	0550	0600	1	0100	0030	0080	00.0	00.0	00.0	0070	0140	0070	0810	0810
51015	0	0055	0020	0050	1	00.7	00.0	00.2	1	0750	0750	1	0060	0030	0100	00.1	00.0	00.0	0090	0180	0100	0690	0700
51015	1	0045	0030	0145	1	00.0	00.0	00.0	1	0900	0900	1	0170	0050	0050	00.9	00.0	00.0	0090	0410	0080	0670	0680
51016	0	0125	0045	0110	1	01.0	00.1	00.7	1	0775	0775	1	0100	0030	0070	00.1	00.0	00.0	0070	0300	0080	0720	0750
51016	1	0245	0135	0205	2	03.1	01.0	02.3	2	0700	0700	1	0140	0040	0160	00.6	00.0	01.8	0110	0280	0120	0750	0750
51016	2												0160	0020	0180	00.7	00.3	01.4	0100	0310	0110	0710	0720
51016	3												0160	0090	0160	03.1	02.6	02.7	0100	0250	0110	0770	0780
51016	4	0175	0055	0225	2	02.0	00.2	02.2	2	0800	0800	1	0200	0050	0170	01.6	00.0	01.4	0080	0260	0100	0720	0780
51017	0	0060	0030	0105	1	01.2	00.3	00.8	1	0800	0800	1	0130	0060	0110	01.2	00.5	00.8	0060	0080	0060	0790	0860
51017	1	0050	0025	0095	1	00.8	00.2	00.8	1	0850	0850	1	0130	0030	0100	00.8	00.3	00.8	0050	0100	0050	0710	0750
51017	2												0200	0020	0200	00.8	00.4	00.9	0050	0080	0040	0720	0710
51017	3												0120	0020	0110	00.8	00.2	00.8	0060	0100	0060	0720	0750
51017	4	0055	0035	0205	1	01.4	00.5	01.3	1	0750	0750	1	0070	0020	0050	01.1	00.4	01.0	0050	0080	0060	0770	0790
51018	0	0020	0015	0025	1	00.1	00.2	00.1	1	0950	0900	1	0200	0110	0200	00.2	00.2	00.2	0110	0180	0100	0820	0900
51018	1	0075	0035	0065	1	00.4	00.2	00.3	1	0800	0900	1	0130	0050	0100	00.2	00.2	00.2	0080	0120	0090	0910	0950
51018	2												0170	0050	0170	00.3	00.3	00.3	0090	0150	0080	1090	1080
51018	3												0120	0030	0070	00.3	00.2	00.2	0100	0160	0110	1120	1120
51018	4	0075	0070	0175	1	00.1	01.3	00.1	1	1050	1050	1	0090	0040	0070	00.5	00.6	00.3	0130	0165	0090	1120	1050
51019	0	0035	0020	0045	1	00.1	00.0	00.1	1	1000	1000	1	0060	0020	0050	00.0	00.0	00.0	0060	0200	0070	0940	0930
51019	1	0050	0035	0085	1	00.0	00.0	00.0	1	0900	0900	1	0030	0010	0060	00.1	00.0	00.0	0080	0210	0070	0920	0910
51019	2												0050	0010	0060	00.1	00.0	00.0	0080	0200	0070	0880	0880
51019	3												0090	0010	0020	00.0	00.0	00.0	0060	0250	0080	0860	0870
51020	0	0035	0025	0050	1	00.7	00.5	00.6	1	0950	0900	1	0050	0040	0070	00.5	00.5	00.7	0070	0090	0060	1180	1040
51020	1	0075	0025	0065	1	00.5	00.1	00.3	1	1000	1050	1	0080	0030	0060	00.4	00.3	00.3	0050	0100	0050	0930	0990
51020	2												0050	0020	0050	00.5	00.4	00.5	0070	0100	0070	0990	0990
51020	3												0040	0020	0050	00.5	00.4	00.6	0100	0130	0100	1190	1070
51020	4	0025	0050	0200	1	00.4	00.1	00.2	1	1000	1000	1	0030	0010	0020	00.4	00.3	00.4	0060	0080	0060	0980	0960
51021	0	0060	0040	0070	1	01.4	00.6	01.4	1	0950	0950	1	0060	0030	0060	00.5	00.3	00.7	0160	0640	0160	0900	0920
51021	1	0030	0060	0045	1	00.2	00.2	00.2	1	1000	1000	3	0040	0030	0060	00.4	00.4	00.7	0150	0520	0150	1020	0990
51022	0	0070	0090	0070	1	00.0	00.3	00.0	1	0800	0800	1	0350	0120	0300	00.2	00.8	00.3	0080	0240	0100	0740	0850
51022	1	0045	0070	0055	1	00.0	01.5	00.0	1	0700	0700	1	0140	0080	0100	00.0	02.1	00.0	0110	0180	0100	0790	0830
51022	2												0160	0060	0140	00.0	01.4	00.0	0110	0200	0100	0790	0840
51022	3												0160	0060	0140	00.0	01.1	00.0	0140	0210	0160	0750	0780
51022	4	0150	0590	0420	1	00.0	01.5	00.1	1	0900	0900	1	0160	0060	0090	00.0	01.0	00.0	0090	0160	0090	0780	0830

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HOT IDLE HC 1ST	HOT IDLE HC 2500	HOT IDLE HC 2ND	HOT IDLE CO 1ST	HOT IDLE CO 2500	HOT IDLE CO 2ND	HOT IDLE TEST NOX 1ST	HOT IDLE TEST NOX 2500	HOT IDLE TEST NOX 2ND	HOT IDLE TEST RPM 1ST	HOT IDLE TEST RPM 2ND
51023	0	0065	0140	0070	1	00.4	04.0	00.1	1	0850	0850	1	0050	0100	0050	00.0	02.3	00.0	0080	0160	0080	0700	0760
51023	1	0060	0200	0190	1	00.7	07.4	00.9	1	0850	0850	1	0080	0140	0060	00.0	04.9	00.0	0060	0170	0080	0820	0810
51023	2												0110	0100	0030	00.0	03.8	00.0	0090	0170	0100	0730	0780
51023	3												0100	0120	0050	00.0	03.3	00.0				0740	0740
51023	4	0050	0125	0150	1	00.0	04.4	00.1	1	0850	0850	1	0090	0100	0080	00.0	03.2	00.0	0070	0160	0080	0810	0840
51024	0	0095	0060	0105	1	01.4	00.2	01.3	1	0600	0600	1	0060	0030	0060	00.7	00.2	00.7	0070	0180	0060	1060	1190
51024	1	0110	0050	0140	1	01.6	00.7	01.3	1	0700	0700	1	0140	0610	0170	00.7	01.2	00.7	0060	0230	0070	0690	0700
51024	2												0120	0060	0130	00.5	00.2	00.6	0070	0200	0080	0750	0760
51024	3												0080	0020	0080	00.8	00.2	00.6				0800	0810
51024	4	0075	0085	0170	1	00.5	00.6	00.4	1	1000	1000	1	0060	0040	0080	00.2	00.2	00.2	0060	0200	0060	0920	0940
51051	0	0100	0050	0050	1	01.2	00.3	00.5	1	0900	0900	1	0130	0060	0100	00.9	00.2	00.4	0070	0260	0060	0700	0780
51051	1	0065	0050	0065	1	00.4	00.3	00.3	1	0850	0850	1	0110	0060	0080	00.5	00.2	00.3	0060	0260	0060	0700	0770
51051	2												0090	0050	0060	00.4	00.1	00.3	0080	0300	0080	0750	0790
51051	3												0110	0030	0080	00.4	00.3	00.3	0040	0260	0030	0830	0940
51051	4	0045	0060	0065	1	00.3	00.1	00.2	1	1000	1000	1	0070	0030	0050	00.3	00.2	00.2	0050	0180	0050	0890	0930
51052	0	0200	0095	0260	1	00.5	00.4	00.6	1	0800	0800	1	0290	0120	0200	00.4	03.0	00.0	0070	0150	0080	0720	0730
51052	1	0050	0050	0105	1	00.0	01.8	00.1	1	0800	0800	1	0110	0060	0090	00.0	01.7	00.0	0080	0190	0100	0750	0750
51052	2												0120	0030	0080	00.0	00.8	00.0	0090	0200	0090	0730	0720
51052	3												0090	0040	0060	00.0	01.6	00.0	0100	0240	0110	0740	0770
51052	4	0055	0045	0055	1	00.0	01.0	00.0	1	1000	1000	1	0090	0010	0070	00.0	00.6	00.0	0050	0170	0060	0750	0780
51053	0	0035	0025	0035	1	00.0	00.0	00.0	1	0800	0800	1	0070	0020	0040	00.0	00.0	00.0	0070	0160	0090	0730	0750
51053	1	0015	0015	0015	1	00.0	00.0	00.0	1	0800	0800	1	0040	0030	0070	00.0	00.0	00.0	0090	0240	0130	0760	1110
51053	2												0020	0020	0020	00.0	00.0	00.0	0080	0130	0080	0720	0710
51053	3												0020	0010	0010	00.0	00.0	00.0	0100	0170	0120	0730	0760
51053	4	0025	0040	0025	1	00.0	00.2	00.0	1	1000	1000	1	0010	0010	0010	00.0	00.0	00.0	0070	0220	0070	0820	1010
51054	0	0015	0025	0025	1	00.0	00.0	00.0	1	0900	0900	1	0030	0030	0030	00.0	00.1	00.0	0090	0230	0130	0850	0880
51054	1	0140	0050	0160	2	03.2	00.5	02.9	2	0700	0700	1	0130	0050	0130	01.7	00.2	01.7	0080	0220	0080	0720	0710
51054	R	0060	0030	0045	1	00.0	00.0	00.0	1	0750	0750	1	0060	0050	0080	00.3	00.0	00.7	0075	0160	0080	0770	0760
51054	L	0110	0255	0115	1	00.6	00.0	00.8	1	0750	0750	1	0090	0210	0130	00.1	00.0	00.4	0080	0200	0080	0720	0740
51054	2												0050	0020	0040	00.0	00.0	00.0	0100	0240	0100	0660	0640
51054	3												0120	0060	0140	00.4	00.3	01.1	0080	0190	0100	0700	0750
51054	4	0055	0035	0135	1	00.0	00.0	00.2	1	0750	0750	1	0090	0020	0040	00.0	00.1	00.0	0050	0110	0050	0730	0740
51055	0	0050	0030	0045	1	00.9	00.0	00.2	1	0800	0800	1	0060	0060	0030	00.5	00.8	00.0	0120	0460	0110	0750	0750
51055	1	0040	0030	0025	1	00.0	00.1	00.0	1	0750	0775	1	0020	0020	0010	00.0	00.0	00.0	0090	0170	0105	0730	0740
51055	2												0010	0010	0010	00.0	00.0	00.0	0070	0240	0080	0700	0730
51055	3												0150	0080	0130	03.8	00.0	02.9	0130	0320	0140	0780	0800
51055	4	0110	0070	0055	1	03.3	00.7	02.2	2	0800	0800	1	0110	0030	0100	02.4	00.0	02.9	0080	0220	0090	0760	0790
51056	0	0075	0025	0100	1	00.7	00.1	00.6	1	0800	0800	1	0070	0030	0070	00.8	00.2	00.6	0040	0140	0050	0740	0790
51056	1	0030	0025	0055	1	00.7	00.1	00.5	1	0850	0850	1	0090	0020	0080	00.9	00.2	00.8	0060	0130	0060	0750	0820
51056	2												0050	0010	0050	00.5	00.4	00.5	0070	0140	0070	1010	1020
51056	3												0090	0020	0060	01.4	00.4	01.1	0060	0160	0060	0810	0890
51056	4	0100	0040	0105	1	00.5	00.2	00.3	1	0875	0950	1	0080	0020	0140	00.5	00.4	00.5	0050	0130	0060	0860	0860
51057	0	0035	0035	0045	1	00.6	00.3	00.6	1	1010	1010	1	0030	0030	0050	00.1	00.1	00.1	0090	0130	0080	0970	0970
51058	0	0130	0060	0130	1	02.9	01.1	02.9	1	0950	0950	1	0190	0060	0170	03.2	00.3	03.3	0080	0130	0080	0810	0920
51058	1	0155	0070	0165	1	04.6	01.3	04.2	2	0950	1000	1	0200	0090	0240	05.1	01.9	05.1	0130	0160	0130	0950	0900
51058	2												0180	0060	0180	04.3	01.1	04.5	0140	0200	0140	0810	0880
51058	3												0090	0080	0090	02.3	01.5	02.4	0140	0190	0140	1500	1540
51058	4	0145	0115	0175	1	03.8	01.5	03.6	2	1300	1300	2	0200	0100	0190	03.7	01.6	03.8	0120	0170	0120	1120	1180

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	IDLE TEST HC 1ST	IDLE TEST HC 2500	IDLE TEST HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HOT STABILIZED IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
51059	0	0145	0070	0110	1	01.4	00.1	00.0	1	0600	0600	1	0120	0050	0060	01.5	00.1	00.1	0080	0260	0070	0680	0720
51059	1	0085	0070	0125	1	00.0	00.0	00.0	1	0700	0700	1	0090	0080	0090	00.1	00.1	00.1	0070	0140	0070	0740	0750
51059	2												0060	0050	0050	00.1	00.1	00.1	0060	0160	0060	0730	0720
51059	3												0080	0050	0060	00.2	00.0	00.0	0060	0190	0070	0770	0810
51059	4	0045	0115	0060	1	00.0	00.0	00.0	1	0850	0850	1	0080	0060	0050	00.0	00.0	00.0	0070	0170	0070	0750	0810
51060	0	0100	0035	0115	1	02.3	00.3	02.1	1	1025	1025	1	0590	0110	0270	01.7	00.4	02.1	0110	0200	0120	0820	0840
51060	1	0090	0070	0120	1	02.0	00.4	02.0	1	1000	1000	1	0210	0070	0160	01.9	00.6	02.0	0140	0270	0140	0920	0940
51060	2												0200	0080	0160	02.3	00.8	02.3	0120	0240	0120	0840	0860
51060	3												0250	0130	0250	02.7	00.8	02.9	0120	0280	0120	0990	1030
51061	0	0032	0095	0050	1	00.3	00.8	00.2	1	0900	0900	1	2260	0210	0180	00.3	00.3	00.3	0070	0210	0070	0730	0770
51062	0	0020	0025	0050	1	00.6	00.4	00.5	1	1200	1250	1	0090	0040	0080	00.5	00.5	00.5	0060	0110	0060	1020	1070
51062	1	0040	0020	0055	1	00.6	00.3	00.6	1	1150	1200	1	0060	0030	0070	00.6	00.5	00.6	0060	0090	0060	1020	1080
51062	2												0060	0020	0060	00.8	00.5	00.7	0060	0090	0060	1050	1080
51062	3												0050	0020	0050	00.8	00.5	00.7	0040	0050	0040	1050	1060
51062	4	0045	0025	0060	1	00.5	00.2	00.5	1	1050	1050	1	0030	0020	0060	00.6	00.5	00.6	0040	0070	0040	1060	1080
51063	0	0105	0035	0105	1	00.6	00.1	00.6	1	0600	0600	1	0150	0020	0160	00.5	00.0	00.5	0060	0120	0080	0660	0660
51063	1											3	0230	0030	0200	00.5	00.1	00.5	0050	0140	0060	0770	0780
51063	2												0430	0040	0200	00.5	00.1	00.4	0030	0250	0060	0790	0840
51063	3												0330	0030	0300	01.5	00.0	01.5	0080	0350	0080	0640	0660
51064	0	0180	0030	0045	1	00.2	00.0	00.0	1	0650	0675	1	0160	0080	0110	00.0	00.0	00.0	0040	0170	0060	0670	0660
51064	1	0115	0340	0205	1	00.1	00.2	00.1	1	0650	0650	1	0140	0040	0120	00.0	00.0	00.0	0060	0180	0060	0680	0670
51064	2												0730	0080	0480	00.3	00.1	01.5	0090	0190	0100	0670	0720
51064	3												0480	0060	0250	00.2	00.2	00.2	0030	0160	0040	0630	0660
51064	4	0180	0045	0120	2	00.0	00.0	00.0	1	0600	0600	1	0160	0040	0130	00.0	00.1	00.1	0060	0160	0050	0560	0580
51065	0	0125	0080	0125	1	00.6	00.1	00.5	1	0800	0800	1	0120	0060	0100	00.4	00.1	00.6	0060	0160	0070	0930	0980
51065	1	0085	0055	0115	1	00.4	00.6	00.4	1	1100	1100	1	0150	0060	0140	00.3	00.2	00.4	0060	0160	0070	1070	1060
51065	2												0230	0180	0230	00.5	00.3	00.5	0060	0180	0060	1090	1120
51065	3												0080	0040	0080	00.3	00.2	00.4	0050	0180	0050	1050	1080
51065	4	0055	0115	0095	1	00.1	00.4	00.1	1	1300	1300	2	0080	0050	0100	00.2	00.1	00.3	0050	0150	0050	1030	1070
51066	0	0050	0035	0060	1	00.0	00.0	00.0	1	1000	1000	1	0070	0020	0050	00.0	00.0	00.0	0120	0260	0130	0960	0980
51066	1	0055	0040	0060	1	00.0	00.0	00.0	1	1000	1050	1	0060	0030	0050	00.0	00.0	00.0	0120	0320	0130	1040	1020
51066	2												0100	0030	0040	00.0	00.0	00.0	0090	0320	0110	0920	0970
51066	3												0170	0050	0050	00.2	00.0	00.0	0100	0260	0100	0940	0980
51066	4	0070	0035	0070	1	00.0	00.0	00.0	1	0850	0850	1	0030	0020	0050	00.0	00.0	00.0	0050	0280	0120	0980	1000
51067	0	0065	0060	0085	1	00.6	00.7	00.2	1	1050	1050	1	0100	0110	0090	00.9	00.9	00.1	0060	0220	0070	1070	0990
51067	1	0140	0115	0140	1	04.7	02.7	02.3	2	1200	1200	6	0090	0060	0050	00.1	00.6	00.1	0120	0290	0110	0990	1040
51067	2												0350	0080	0060	00.1	01.1	00.1	0080	0250	0090	0990	0980
51067	3												0080	0060	0090	00.2	00.0	00.2	0100	0370	0100	0970	0960
51067	4	0045	0190	0100	1	00.1	00.8	00.2	1	0800	0800	1	0050	0080	0050	00.0	00.9	00.0	0080	0310	0080	0990	0970
51068	0	0040	0035	0045	1	00.4	00.2	00.5	1	0850	0900	1	0070	0020	0030	00.8	00.2	00.3	0060	0100	0070	0810	0910
51068	1	0030	0025	0035	1	00.5	00.3	00.4	1				0040	0010	0020	00.5	00.2	00.2	0080	0140	0080	0930	0910
51068	2												0060	0030	0030	00.9	00.3	00.4	0070	0150	0080	0810	0940
51069	0	0035	0015	0050	1	00.4	00.2	00.2	1	1200	1200	1	0060	0020	0050	00.2	00.3	00.2	0040	0070	0040	1030	1090
51070	0	0070	0025	0130	1	01.1	00.5	00.8	1	0900	0900	1	0100	0030	0090	01.3	00.7	00.9	0060	0090	0080	0870	0810
51070	1	0085	0070	0090	1	01.2	00.6	00.9	1	0850	0850	1	0090	0030	0080	00.9	00.7	00.7	0070	0090	0100	0850	0840
51070	2												0070	0030	0080	00.8	00.4	00.8	0080	0110	0080	0700	0740
51070	3												0080	0040	0080	00.4	00.4	00.4	0080	0100	0080	0970	1010
51070	4	0080	0060	0110	1	00.2	01.0	00.5	1	0900	0900	1	0030	0020	0040	00.6	00.5	00.7	0060	0090	0060	0990	1040

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPANO	SEQ	DED IDLE TEST HC 1ST	HC 2500	HC 2ND	S	CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HOT IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
51071	0	0030	0015	0045	1	00.4	00.0	00.5	1	0800	0800	1	0040	0010	0040	00.5	00.1	00.6	0060	0200	0070	0790	0850
51071	1	0010	0005	0015	1	00.5	00.1	00.4	1	0800	0800	1	0000	0000	0000	00.0	00.0	00.0	0080	0190	0070	0800	0800
51071	2												0040	0010	0040	00.4	00.1	00.5	0070	0190	0080	0820	0830
51071	3												0180	0030	0060	01.6	00.3	01.2	0100	0190	0100	0790	0820
51071	4	0025	0020	0020	1	00.4	00.3	00.4	1	0800	0800	1	0040	0010	0030	00.7	00.1	00.5	0060	0180	0070	0810	0810
51073	0	0060	0045	0070	1	00.6	00.4	00.5	1	0900	0900	1	0080	0030	0030	00.1	00.1	00.0	0090	0180	0100	0830	0900
51073	1	0040	0045	0040	1	00.2	00.1	00.2	1	1000	1000	1	0090	0050	0090	00.3	00.6	00.9	0090	0200	0110	0820	0920
51101	0	0050	0015	0060	1	00.5	00.1	00.4	1	1000	1000	1	0060	0020	0050	00.3	00.1	00.3	0080	0110	0050	0880	0970
51101	1	0050	0025	0080	1	00.6	00.1	00.4	1	1100	1100	1	0090	0020	0070	00.3	00.2	00.2	0040	0060	0040	0940	0960
51101	2												0060	0020	0060	00.4	00.2	00.5	0060	0100	0060	0970	1000
51101	3												0060	0020	0050	00.4	00.2	00.4	0060	0120	0060	0920	1000
51101	4	0085	0035	0070	1	00.4	00.1	00.3	1	1000	1000	1	0050	0020	0050	00.2	00.2	00.4	0050	0080	0050	0960	0930
51102	0	0020	0055	0045	1	00.1	01.8	00.2	1	0885	0850	1	0040	0050	0040	00.1	00.8	00.1	0090	0230	0090	0760	0770
51102	1	0110	0090	0105	1	01.6	02.1	01.2	1	0700	0700	1	0100	0060	0070	00.2	00.8	00.4	0100	0320	0110	0630	0710
51102	2												0090	0080	0090	00.7	01.5	00.8	0100	0230	0110	0860	0860
51103	0	0025	0040	0040	1	00.0	00.2	00.1	1	0800	0800	1	0370	0050	0190	00.1	00.0	00.0	0090	0370	0080	0730	0740
51103	1	0125	0035	0040	1	00.2	00.0	00.0	1	0950	0950	1	0300	0060	0150	00.0	00.0	00.0	0080	0220	0060	0740	0800
51103	2												0050	0020	0030	00.0	00.0	00.0	0170	0560	0160	0840	0860
51103	3												0270	0050	0200	00.2	00.0	00.2	0080	0520	0070	0780	0800
51103	4	1650	0480	2000	2	02.6	01.6	03.8	2	0500	0500	1	1900	0220	2010	01.8	00.0	02.0	0100	0290	0100	0520	0510
51104	0	0120	0085	0065	1	00.0	01.5	00.0	1	0800	0800	1	0480	0200	0210	00.0	01.1	00.0	0090	0200	0080	0510	0810
51104	1	0085	0055	0095	1	00.0	01.8	00.0	1	0900	0900	1	0180	0050	0040	00.4	01.1	00.0	0100	0210	0090	0900	0900
51104	2												0150	0090	0160	02.3	02.3	02.1	0120	0190	0120	0980	0940
51104	3												0190	0120	0210	01.9	02.6	02.5	0120	0200	0130	0950	0970
51104	4	0145	0130	0215	1	01.6	02.2	01.9	2	0950	1050	1	0190	0120	0190	01.8	01.8	01.7	0120	0180	0120	0970	0940
51105	0	0100	0070	0140	1	00.1	00.7	00.1	1	0900	0950	1	0190	0060	0190	00.1	00.7	00.1	0040	0080	0050	0700	0800
51105	1	0100	0050	0210	1	00.1	00.5	00.1	1	0750	0775	1	0160	0030	0160	00.1	00.8	00.1	0040	0050	0030	0750	0780
51105	2												0440	0050	0400	00.1	00.9	00.1	0040	0070	0040	0710	0750
51105	3												0190	0030	0180	01.6	00.7	01.7	0140	0160	0140	0990	0980
51106	0	0100	0040	0120	1	00.8	00.3	00.7	1	1000	1000	1	0180	0050	0130	00.4	00.4	00.4	0090	0120	0090	0770	0860
51106	1	0095	0040	0130	1	00.8	00.7	00.9	1	1050	1050	1	0170	0030	0160	00.8	00.5	00.3	0080	0100	0080	0830	0810
51106	2												0110	0050	0090	01.8	01.5	01.9	0080	0080	0070	1060	1120
51106	3												0100	0040	0090	01.9	01.6	01.9	0120	0140	0160	1120	1150
51106	4	0155	0085	0250	1	01.9	01.0	02.5	1	0850	0850	1	0150	0030	0120	00.8	00.7	00.7	0060	0060	0060	0930	0960
51107	0	0040	0115	0095	1	00.0	02.5	00.0	1	0700	0700	1	0210	0080	0160	00.0	01.3	00.0	0060	0210	0070	0620	0660
51107	1	0290	0070	0190	1	00.0	00.6	00.0	1	0700	0700	1	0260	0030	0260	00.0	00.0	00.0	0090	0260	0080	0730	0680
51107	2												0200	0020	0130	00.0	00.0	00.0	0060	0170	0070	0600	0630
51107	3												0280	0060	0230	00.0	00.0	00.0	0080	0200	0090	0680	0730
51107	4	0030	0085	0175	1	00.0	01.7	00.1	1	0800	0800	1	0140	0020	0090	00.0	00.0	00.0	0080	0160	0080	0730	0780
51108	0	0035	0030	0050	1	00.9	00.5	00.9	1	0950	0950	1	0090	0050	0090	00.6	00.4	00.9	0070	0110	0060	0930	0920
51108	1	0020	0040	0050	1	00.7	00.5	00.7	1	0950	0950	1	0080	0020	0070	01.0	00.5	00.9	0050	0120	0060	0890	0930
51108	2												0070	0020	0070	01.1	00.4	01.1	0050	0130	0060	0910	0910
51108	3												0070	0020	0060	01.5	00.5	01.4	0070	0140	0070	0820	0810
51108	4	0030	0030	0140	1	00.6	00.3	00.6	1	1000	1000	1	0030	0020	0030	00.8	00.5	00.8	0050	0080	0050	0950	0940
51109	0	0020	0020	0025	1	00.0	00.1	00.0	1	1050	1050	1	0110	0050	0080	02.2	00.0	00.0	0080	0200	0070	0810	0910
51109	1	0025	0020	0035	1	00.0	00.2	00.0	1	0900	0900	1	0090	0050	0050	01.7	00.3	00.1	0090	0160	0080	0940	0960

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SE	VEQ HC 1ST	VEQ HC 2500	VEQ HC 2ND	VEQ S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	IDLE TEST S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	IDLE TEST S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	HTS IDLE CO 1ST	HTS IDLE CO 2500	HTS IDLE CO 2ND	HTS IDLE TEST NOX 1ST	HTS IDLE TEST NOX 2500	HTS IDLE TEST NOX 2ND	HTS IDLE TEST RPM 1ST	HTS IDLE TEST RPM 2ND
51110	0	0035	0030	0020	1	00.0	00.0	00.0	1	0600	0600	1	0140	0030	0210	00.0	00.0	00.1	0100	0380	0080	1030	0980
51110	1	0040	0025	0040	1	00.0	00.0	00.0	1	1200	1200	2	0130	0030	0130	00.0	00.0	00.1	0100	0320	0120	0970	0960
51110	2												0100	0010	0090	00.2	00.0	00.1	0120	0500	0140	0830	0810
51110	3												0040	0020	0050	00.0	00.0	00.0	0100	0360	0080	1030	0990
51110	4	0110	0025	0155	1	00.0	00.0	00.0	1	0850	0850	1	0150	0020	0120	00.0	00.0	00.0	0060	0200	0050	0940	0920
51111	0	0180	0360	0175	1	00.0	00.0	00.0	1	0950	0950	1	0120	0050	0160	00.0	00.0	00.0	0100	0160	0110	0950	0860
51111	1	0050	0035	0050	1	00.0	00.0	00.0	1	0800	0825	1	0080	0020	0030	00.0	00.0	00.0	0100	0230	0120	0940	0970
51111	2												0210	0050	0210	01.3	00.7	01.0	0120	0200	0120	0940	0940
51111	3												0490	0130	0390	00.2	00.4	00.0	0080	0140	0100	0940	0960
51111	4	0035	0085	0045	1	00.0	00.6	00.0	1	0700	0700	1	0080	0030	0050	00.0	00.7	00.0	0110	0200	0140	0860	0860
51112	0	0175	0070	0175	1	00.0	00.3	00.0	1	0800	0800	1	0290	0020	0260	00.0	00.0	00.0	0070	0380	0080	0730	0720
51112	1	0175	0020	0115	1	00.0	00.0	00.0	1	0750	0750	1	0300	0030	0200	00.0	00.0	00.0	0085	0400	0080	0710	0710
51112	2												0270	0050	0170	00.1	00.0	00.0	0100	0410	0080	0670	0670
51112	3												0210	0030	0160	00.0	00.0	00.0	0070	0350	0070	0650	0650
51112	4	0110	0030	0100	1	00.0	00.0	00.0	1	0650	0650	1	0120	0020	0090	00.0	00.0	00.0	0070	0360	0070	0670	0670
51113	0	0100	0095	0165	1	00.3	00.3	00.2	1	0900	0900	1	0120	0050	0060	00.0	00.2	00.0	0030	0060	0040	0760	0870
51113	1	0135	0105	0180	1	00.5	00.5	00.3	1	1000	1000	1	0150	0050	0170	00.3	00.3	00.3	0100	0140	0090	0950	0960
51113	2												0800	0080	0640	00.3	00.3	00.2	0090	0150	0090	0860	0810
51113	3												0090	0050	0080	00.2	00.3	00.3	0110	0160	0110	1010	1010
51113	4	2000	2000	2000	2	00.1	00.1	00.1	1	0700	0700	1	2630	2910	2710	00.3	00.2	00.2	0100	0160	0100	0820	0850
51114	0	0050	0035	0055	1	00.0	00.0	00.0	1	0675	0700	1	0080	0020	0150	00.2	00.2	00.1	0080	0220	0080	0740	0750
51114	1	0060	0025	0055	1	00.0	00.1	00.0	1	0750	0750	1	0060	0020	0070	00.3	00.3	00.1	0080	0220	0090	0710	0680
51114	2												0160	0020	0130	00.0	00.1	00.0	0050	0260	0060	0670	0670
51114	3												0140	0020	0110	00.0	00.0	00.0	0040	0190	0060	0660	0670
51114	4	0235	0065	0210	1	00.0	00.2	00.0	1	0700	0700	1	0200	0010	0190	00.0	00.0	00.0	0040	0190	0060	0690	0680
51115	0	0040	0025	0040	1	00.0	00.0	00.0	1	0800	0800	1	0050	0020	0040	00.0	00.0	00.0	0060	0500	0060	0770	0770
51115	1	0020	0015	0025	1	00.0	00.0	00.0	1	0875	0975	1	0060	0030	0050	00.0	00.0	00.0	0080	0430	0080	0830	0840
51115	2												0050	0020	0030	00.0	00.0	00.0	0080	0400	0080	0810	0870
51115	3												0050	0020	0030	00.0	00.0	00.0	0080	0400	0080	0810	0850
51115	4	0040	0030	0065	1	00.0	00.0	00.0	1	0900	0900	1	0030	0010	0030	00.0	00.0	00.0	0070	0280	0070	0820	0830
51116	0	0215	0080	0260	1	00.0	00.0	00.0	1	0900	1000	1	0310	0070	0350	00.1	00.1	00.1	0040	0130	0040	0870	0890
51116	1	0110	0060	0140	1	00.0	00.0	00.0	1	0950	0950	1	0120	0060	0160	00.1	00.1	00.0	0080	0140	0050	1020	0920
51116	2												0170	0040	0130	00.0	00.0	00.0	0060	0360	0060	0850	0880
51116	3												1440	0120	1250	00.1	00.1	00.1	0040	0340	0050	0790	0820
51116	4	0640	0230	0885	2	00.1	00.1	00.1	1	0900	0900	1	0580	0160	0610	00.0	00.1	00.0	0040	0150	0040	0830	0830
51117	0	0025	0025	0060	1	00.0	00.1	00.0	1	0750	0700	1	0330	0020	0300	00.0	00.0	00.0	0040	0220	0040	0720	0670
51117	1	0100	0025	0095	1	00.0	00.0	00.0	1	0700	0700	1	0290	0030	0270	00.0	00.0	00.0	0050	0280	0040	0610	0650
51117	2												0200	0020	0120	00.0	00.0	00.0	0100	0240	0100	0850	0860
51117	3												0140	0010	0120	00.0	00.0	00.0	0060	0260	0090	0750	0780
51117	4	0065	0035	0095	1	00.0	00.0	00.0	1	0800	0800	1	0050	0010	0020	00.0	00.0	00.0	0100	0180	0080	1000	0900
51118	0	0030	0020	0035	1	00.1	00.0	00.0	1	0850	0850	1	0160	0030	0150	04.3	00.2	04.2	0100	0400	0120	0690	0730
51118	1	0115	0080	0135	1	04.0	01.1	03.7	2	0750	0750	1	0140	0040	0140	05.0	00.5	04.4	0120	0390	0120	0730	0730
51118	2												0040	0010	0010	00.4	00.0	00.0	0090	0420	0080	0750	0760
51118	4	0150	0150	0390	2	05.7	04.9	05.4	2	0700	0700	1	0190	0050	0140	06.7	01.0	05.2	0090	0280	0090	0760	0750
51119	0	0020	0020	0025	1	00.0	00.0	00.0	1	0900	0900	1	0020	0010	0020	00.0	00.0	00.0	0040	0310	0050	0800	0840
51119	1	0020	0020	0025	1	00.0	00.0	00.0	1	0875	0900	1	0030	0020	0020	00.0	00.0	00.0	0060	0320	0070	0890	0870
51119	2												0030	0010	0020	00.0	00.0	00.0	0070	0310	0070	0740	0760
51119	3												0030	0010	0010	00.0	00.0	00.0	0060	0390	0060	0820	0940
51119	4	0205	0115	0250	1	05.7	01.0	05.6	2	0700	0700	1	0190	0080	0220	05.5	00.8	06.9	0130	0470	0140	0710	0710

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	REQ HC 1ST	REQ HC 2500	REQ HC 2ND	S	IDLE TEST CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HOT STABILIZED IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
51120	0	0105	0050	0150	1	00.8	00.1	00.8	1	0850	0850	1	0140	0040	0130	00.6	00.1	00.5	0080	0210	0070	0780	0850
51120	1	0070	0035	0145	1	00.7	00.4	00.5	1	0900	0900	1	0095	0060	0130	00.5	00.1	00.5	0070	0210	0060	0920	0900
51120	2												0070	0030	0080	00.8	00.3	00.8	0070	0150	0080	1140	1150
51120	3												0130	0060	0090	00.9	00.3	00.8	0050	0140	0060	1180	1190
51120	4	0090	0040	0180	1	00.2	00.4	00.1	1				0110	0030	0120	00.2	00.6	00.2	0050	0130	0050	0640	0690
51121	0	0055	0035	0055	1	00.0	00.0	00.0	1	0850	0850	1	0120	0020	0090	00.0	00.0	00.0	0080	0200	0080	0770	0750
51121	1	0050	0075	0050	1	00.0	02.4	00.0	1	0900	0900	1	0120	0030	0080	00.0	00.5	00.0	0070	0180	0080	0780	0800
51121	2												0120	0020	0120	00.6	00.1	00.9	0110	0220	0110	1000	1000
51121	3												0100	0040	0080	00.5	00.0	00.3	0100	0260	0080	0930	1010
51121	4	0260	0145	0525	2	04.3	03.3	04.1	2	0900	0900	1	0200	0050	0150	02.2	00.5	01.8	0120	0190	0120	0850	0960
51122	0	0025	0025	0035	1	00.2	00.1	00.3	1	0750	0800	1	0030	0020	0030	00.3	00.1	00.3	0070	0100	0080	0760	0790
51122	1	0020	0015	0040	1	00.4	00.1	00.3	1	0800	0800	1	0040	0020	0030	00.5	00.1	00.5	0080	0110	0080	0800	0800
51122	2												0030	0010	0020	00.5	00.1	00.5	0090	0120	0090	0760	0810
51122	3												0080	0020	0090	00.2	00.1	00.2	0070	0100	0080	0810	0830
51122	4	0075	0015	0310	1	03.6	00.8	02.8	2	0700	0700	1	0040	0020	0130	00.5	00.1	00.4	0080	0180	0100	0870	0820
51123	0	0060	0025	0155	1	01.1	00.3	00.9	1	1000	1000	1	0090	0030	0100	00.9	00.5	00.8	0060	0090	0060	1010	0920
51123	1	0140	0050	0115	1	00.7	00.3	00.7	1	1000	1000	1	0140	0040	0130	00.7	00.4	00.5	0060	0100	0060	0860	0930
51123	2												0090	0030	0080	00.8	00.4	00.7	0060	0100	0070	0940	0960
51123	4	0055	0045	0065	1	00.7	00.4	00.6	1	0950	0950	1	0070	0020	0100	00.6	00.4	00.5	0060	0090	0060	0920	0970
51124	0	0040	0080	0045	1	00.6	00.5	00.5	1	0950	0950	1	0060	0010	0050	00.6	00.2	00.7	0140	0160	0170	0910	0930
51124	1	0060	0070	0090	1	01.2	01.8	01.3	1	0950	0950	1	0070	0050	0080	00.8	01.4	00.8	0150	0230	0150	0920	0960
51124	R	0045	0025	0060	1	00.5	00.1	00.3	1	0700	0700	1	0060	0020	0050	00.4	00.1	00.2	0120	0180	0130	0670	0650
51124	C	0060	0025	0085	1	00.7	00.3	00.5	1	0700	0700	1	0080	0020	0070	00.3	00.2	00.3	0120	0220	0130	0650	0660
51124	2												0060	0030	0060	00.3	00.9	00.4	0110	0320	0140	0660	0700
51124	3												0130	0060	0140	02.1	01.4	02.6	0130	0220	0130	0660	0680
51124	4	0125	0120	0130	1	02.6	03.2	02.4	2	0650	0650	1	0130	0050	0110	02.6	01.2	02.2	0130	0270	0140	0640	0660
51125	0	0020	0020	0030	1	00.0	00.0	00.0	1	0700	0700	1	0090	0050	0050	00.4	00.0	00.0	0080	0380	0080	0730	0740
51125	1	0020	0025	0035	1	00.0	00.0	00.0	1	0750	0850	1	0050	0030	0050	00.0	00.0	00.0	0090	0280	0080	0740	0730
51125	2												0020	0010	0020	00.0	00.0	00.0	0070	0340	0070	0750	0770
51125	4	0130	0045	0130	1	01.5	00.1	01.5	2	0700	0700	1	0060	0010	0020	00.0	00.0	00.0	0080	0320	0070	0730	0750
51126	0	0115	0035	0145	1	00.1	00.0	00.1	1	0900	0900	1	0060	0010	0140	00.9	00.1	00.1	0040	0110	0040	0620	0780
51126	1	0025	0015	0025	1	00.6	00.2	00.6	1	0850	0850	1	0070	0020	0050	00.9	00.6	00.7	0080	0100	0080	0730	0620
51126	2												0060	0020	0080	00.2	00.1	00.2	0040	0180	0060	0770	0790
51126	3												0030	0010	0030	00.3	00.4	00.1	0060	0100	0070	0830	0840
51126	4	0110	0035	0125	1	00.1	00.1	00.1	1	0800	0800	1	0070	0010	0050	00.1	00.2	00.1	0070	0190	0060	0790	0790
51127	0	0060	0045	0110	1	00.4	00.1	00.4	1	0900	0950	1	0050	0040	0090	00.3	00.1	00.3	0080	0160	0060	1290	0790
51127	1	0070	0045	0105	1	00.5	00.1	00.5	1	0900	0900	1	0090	0050	0100	00.3	00.7	00.3	0070	0160	0060	0910	0780
51128	0	0060	0025	0070	1	00.3	00.1	00.1	1	0900	0900	1	0680	0090	0600	00.2	00.1	00.2	0100	0220	0100	1100	1120
51128	1	0035	0060	0085	1	00.0	00.6	00.0	1	0800	0850	1	0220	0060	0350	00.1	00.2	00.1	0065	0220	0060	0680	0670
51128	2												0230	0060	0140	00.3	00.2	00.2	0100	0170	0100	0760	0750
51128	4	0160	0140	0380	1	00.1	00.1	00.1	1	0700	0700	1	0200	0050	0160	00.1	00.1	00.1	0050	0180	0040	0700	0700
51129	0	0040	0025	0040	1	00.0	00.0	00.0	1	0925	0950	1	0060	0020	0060	00.2	00.0	00.0	0060	0320	0080	0850	0910
51129	1	0025	0030	0030	1	00.0	00.0	00.0	1	0925	0925	1	0060	0040	0080	00.0	00.0	00.0	0070	0310	0075	0870	0870
51129	2												0080	0020	0050	00.0	00.0	00.0	0050	0270	0050	0890	0890
51129	4	0065	0045	0070	1	00.0	00.0	00.0	1	1000	1000	1	0030	0020	0030	00.0	00.0	00.0	0040	0170	0050	0900	0970
51130	0	0050	0035	0055	1	00.6	00.4	00.7	1	0850	0875	1	0110	0030	0080	01.7	00.5	01.4	0080	0110	0070	0810	0900
51130	1	0015	0015	0045	1	00.7	00.3	00.8	1	0900	0900	1	0070	0020	0060	01.5	00.5	01.2	0060	0080	0060	0790	0870
51130	2												0290	0020	0360	01.1	00.6	01.0	0060	0160	0070	0670	0730
51130	4	0390	0125	0745	2	00.8	01.1	00.4	1	0700	0700	1	0200	0020	0180	01.9	00.5	01.8	0040	0080	0050	0770	0780

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPANO	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HTS IDLE HC 1ST	HTS IDLE HC 2500	HTS IDLE HC 2ND	HTS IDLE CO 1ST	HTS IDLE CO 2500	HTS IDLE CO 2ND	IDLE TEST NOX 1ST	IDLE TEST NOX 2500	IDLE TEST NOX 2ND	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND
51131	0	0260	0170	0315	1	01.5	02.7	01.6	1	0850	0900	1	0430	0200	0440	02.0	01.4	02.0	0110	0240	0110	0740	0760
51131	1	0240	0130	0220	1	01.3	01.2	01.0	1	1000	1000	1	0310	0170	0320	01.3	01.6	01.3	0160	0260	0180	0970	0950
51131	2												0360	0170	0310	01.3	01.3	01.3	0080	0220	0110	0810	0870
51131	4	0150	0085	0185	1	02.1	01.0	01.7	1	0750	0750	1	0170	0060	0220	01.1	00.5	02.8	0100	0130	0050	0650	0640
51132	0	0095	0050	0125	1	02.0	00.2	02.0	1	0900	0900	1	0100	0050	0100	01.9	00.3	01.9	0070	0150	0060	0780	0810
51132	1	0063	0060	0120	1	01.4	00.5	01.1	1	0800	0850	1	0170	0040	0140	02.4	02.2	02.3	0070	0130	0070	0720	0720
51132	2												0150	0050	0100	02.7	00.3	01.7	0090	0190	0080	0710	0860
51133	0	0075	0075	0080	1	00.7	00.2	00.8	1	1050	1150	1	0100	0050	0060	00.8	00.2	00.9	0110	0140	0120	1050	1080
51133	1	0080	0060	0095	1	00.9	00.2	01.1	1	1150	1150	1	0080	0020	0070	00.6	00.1	00.8	0120	0130	0120	1090	1080
51133	2												0120	0050	0120	02.6	00.3	03.2	0120	0170	0140	1040	1080
51133	4	0130	0055	0125	1	03.3	00.2	03.4	2	1100	1100	1	0120	0030	0100	02.5	00.2	03.1	0080	0190	0080	1070	1070
51134	0	0020	0025	0030	1	00.0	00.0	00.0	1	0850	0850	1	0050	0040	0040	00.1	00.1	00.1	0080	0190	0090	0930	0920
51134	1	0035	0020	0030	1	00.6	00.0	00.0	1	0800	0800	1	0020	0020	0020	00.1	00.0	00.0	0080	0180	0080	0890	0900
51134	2												0030	0030	0030	00.1	00.0	00.1	0060	0190	0060	0900	0900
51134	4	0040	0040	0045	1	00.2	00.1	00.1	1	0800	0800	1	0040	0020	0030	00.4	00.1	00.2	0030	0200	0040	0670	0920
51135	0	0045	0100	0060	1	00.0	00.0	00.0	1	0950	0950	1	0080	0030	0050	00.0	00.0	00.0	0130	0200	0140	0930	0910
51135	1	0075	0170	0105	1	00.0	00.1	00.0	1	0850	0875	1	0140	0020	0080	00.0	00.0	00.0	0120	0290	0130	0790	0910
51135	2												0190	0050	0140	00.1	00.9	00.2	0150	0660	0180	0900	0940
51135	4	0065	0035	0070	1	00.1	00.1	00.1	1	0650	0650	1	0280	0040	0120	00.3	00.2	00.0	0100	0320	0110	0700	0680
61000	0	0130	0040	0100	1	00.0	00.0	00.0	1	0800	0800	1	0140	0040	0150	00.0	00.0	00.0	0075	0250	0080	0750	0780
61000	1	0090	0105	0115	1	00.0	00.6	00.0	1	1000	1000	1	0140	0050	0120	00.0	00.5	00.0	0100	0260	0120	0930	1000
61000	2												0280	0120	0280	00.6	01.4	00.5	0130	0300	0140	1030	1040
61000	3												0300	0090	0130	00.3	01.0	00.1	0160	0360	0070	1080	1090
61000	4	0215	0115	0255	2	01.7	02.0	01.9	2	1100	1100	2	0190	0120	0180	01.0	01.4	00.7	0120	0250	0130	1100	1140
61001	0	0035	0055	0045	1	00.0	00.0	00.0	1	0900	0900	1	0070	0050	0050	00.0	00.0	00.0	0060	0260	0060	0850	0890
61001	1	0030	0030	0025	1	00.0	00.1	00.0	1	0900	0900	1	0080	0020	0030	00.0	00.0	00.0	0040	0120	0060	0810	0880
61002	0	0220	0080	0215	1	01.0	00.0	00.5	1	0800	0800	1	0120	0040	0080	00.1	00.0	00.1	0050	0230	0060	0780	0800
61002	1	0070	0045	0060	1	00.0	00.0	00.0	1	0950	0950	1	0100	0020	0050	00.0	00.0	00.0	0070	0270	0090	0670	0840
61002	2												0020	0010	0020	00.0	00.0	00.0	0140	0270	0130	1000	0940
61002	3												0060	0050	0080	00.0	00.1	00.0				0920	0990
61002	4	0170	0145	0145	1	01.5	00.0	01.1	2	1050	1050	1	0200	0050	0100	00.8	00.0	00.3	0100	0070	0080	0920	0980
61003	0	0075	0035	0075	1	00.0	00.0	00.0	1	1050	1050	1	0190	0050	0160	00.0	00.1	00.0	0080	0260	0090	0780	0910
61003	1	0035	0025	0030	1	00.0	00.0	00.0	1	0800	0800	1	0090	0030	0110	00.0	00.0	00.0	0100	0400	0090	0950	0910
61003	2												0440	0030	0370	00.0	00.1	00.0	0090	0400	0110	0850	0910
61003	3												0180	0030	0140	00.0	00.0	00.0	0130	0280	0130	0850	0860
61003	4	0110	0090	0105	1	00.0	00.6	00.0	1	1150	1150	2	0140	0030	0060	00.0	00.1	00.0	0080	0160	0100	0840	0870
61004	0	0030	0020	0035	1	00.0	00.0	00.0	1	0800	0800	1	0250	0080	0160	00.0	00.1	00.0	0060	0320	0080	0790	0810
61004	1	0095	0045	0100	1	00.0	00.0	00.0	1	0800	0800	1	0130	0060	0120	00.0	00.0	00.0	0060	0260	0070	0810	0800
61004	2												0070	0020	0050	00.0	00.0	00.0	0080	0230	0090	0700	0760
61004	3												0280	0080	0240	00.3	00.4	00.2	0110	0370	0120	0770	0800
61004	4	0075	0100	0105	1	00.0	00.9	00.0	1	0700	0700	1	0060	0060	0100	00.1	00.4	00.1	0100	0260	0110	0800	0830
61005	0	0145	0070	0135	1	00.9	00.0	01.0	1	1010	1050	1	0290	0160	0260	01.0	00.5	01.3	0180	0340	0190	0920	0930
61005	1	0150	0105	0700	1	01.3	00.8	01.8	2	1050	1050	1	0120	0100	0160	00.1	00.9	01.0	0160	0320	0170	0960	1040
61005	2												0140	0080	0170	01.3	00.5	01.6	0170	0280	0160	1020	1010
61005	3												0190	0070	0190	01.5	00.3	01.4	0220	0340	0220	1000	1030
61005	4	0215	0135	0290	1	02.3	00.7	02.5	2				0540	0190	0310	02.2	00.7	02.3	0160	0300	0160	1060	1080

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SE	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
61006	0	0080	0115	0095	1	00.1	00.0	00.0	1	0900	0900	1	0320	0060	0150	00.2	00.0	00.0	0110	0220	0100	0850	0870
61006	1	0120	0065	0120	1	00.2	00.0	00.1	1	0800	0800	1	0180	0120	0080	00.5	00.0	00.0	0120	0190	0110	0820	0840
61006	2												0100	0080	0060	00.0	00.0	00.0	0100	0150	0100	0820	0840
61006	3												0230	0070	0140	00.0	00.0	00.0	0110	0180	0130	0770	0820
61006	4	0225	0260	0285	2	03.4	01.9	03.3	2	0950	0950	1	0310	0200	0420	04.3	00.1	03.7	0120	0140	0120	0860	0880
61051	0	0170	0095	0160	1	01.2	00.8	01.0	1	1000	1050	1	0080	0040	0140	00.0	00.0	00.2	0080	0210	0060	0890	0980
61051	1	0275	0065	0225	2	02.6	00.1	02.7	2	1050	1050	1	0230	0090	0250	01.2	00.5	01.8	0060	0170	0070	0940	0960
61051	2												0190	0030	0100	00.0	00.1	00.0	0070	0360	0090	0750	0810
61051	3												0210	0080	0210	01.0	00.5	01.1	0180	0300	0180	0970	0980
61051	4	0185	0095	0215	1	01.2	00.6	00.5	1	1000	1000	1	0210	0060	0200	00.8	00.5	00.9	0100	0180	0100	0910	0950
61052	0	0100	0060	0100	1	00.0	00.0	00.0	1	0700	0700	1	0280	0030	0200	00.0	00.0	00.0	0040	0240	0050	0660	0660
61052	1	0110	0030	0110	1	00.0	00.0	00.0	1	0750	0750	1	0170	0040	0220	00.0	00.2	00.0	0080	0210	0080	0780	0710
61052	2												0080	0030	0080	00.0	00.0	00.0	0070	0180	0080	0680	0710
61052	3												0080	0030	0070	00.0	00.2	00.0	0130	0520	0150	0610	0660
61052	4	0150	0130	0355	1	00.0	00.0	00.0	1	0800	0800	1	0510	0080	0240	00.1	00.3	00.0	0060	0230	0090	0700	0710
61053	0	0015	0030	0020	1	00.0	00.0	00.0	1	0600	0600	1	0050	0120	0060	00.0	00.0	00.0	0080	0210	0080	0820	0650
61053	1	0025	0030	0050	1	00.0	00.0	00.0	1	0700	0700	1	0160	0080	0140	00.0	00.0	00.0	0090	0190	0100	0660	0650
61053	2												0140	0050	0120	00.0	00.0	00.0	0080	0210	0100	0630	0650
61053	3												0470	0170	0260	00.3	00.1	00.0	0100	0150	0110	0630	0650
61053	4	0140	0155	0270	1	00.0	00.0	00.0	1	0600	0600	1	0210	0080	0120	00.0	00.0	00.0	0080	0160	0090	0610	0630
61054	0	0195	0155	0200	1	00.7	01.4	00.5	1	0900	0900	1	0330	0120	0310	00.9	00.8	00.8	0100	0240	0100	0730	0800
61054	1	0245	0100	0250	2	02.0	00.1	01.7	2	0850	0850	1	0260	0100	0240	00.1	00.4	00.5	0070	0230	0100	0740	0800
61054	2												0340	0100	0370	02.5	00.9	02.9	0130	0280	0140	0830	0860
61054	3												0510	0100	0390	01.3	00.6	01.5	0130	0320	0150	0900	0910
61055	0	0060	0080	0040	1	00.0	01.6	00.0	1	0800	0800	1	0190	0040	0090	00.0	00.0	00.0	0080	0230	0090	0700	0780
61055	1	0025	0120	0030	1	00.0	00.6	00.0	1	0900	0900	1	0080	0020	0060	00.0	00.0	00.0	0070	0210	0080	0740	0760
61055	2												0130	0030	0100	00.0	00.1	00.0	0090	0210	0100	0830	0830
61055	3												0190	0020	0170	00.0	00.0	00.0	0060	0240	0070	0760	0770
61055	4	0085	0060	0405	1	00.0	00.3	00.1	1	0800	0800	1	0110	0030	0060	00.0	00.0	00.0	0100	0130	0060	0780	0800
61056	0	0065	0025	0070	1	00.0	00.1	00.0	1	1000	1000	1	0140	0050	0160	00.5	00.0	00.0	0030	0200	0060	0850	0890
61056	1	0045	0025	0055	1	00.0	00.0	00.0	1	1000	1000	1	0090	0020	0060	00.0	00.0	00.0	0050	0180	0060	0950	0970
61056	2												0070	0020	0040	00.0	00.0	00.0	0050	0170	0060	0830	0910
61056	3												0060	0020	0050	00.0	00.0	00.0	0060	0200	0060	0870	0900
61056	4	0125	0050	0230	1	00.0	00.0	00.0	1	0500	0500	1	0130	0020	0070	00.0	00.0	00.0	0030	0120	0040	0910	0910
61057	0	0235	0130	0220	1	00.7	00.6	00.5	1	0900	1000	1	0050	0080	0110	00.0	00.0	00.0	0080	0100	0060	0920	0940
61057	1	0025	0025	0030	1	00.0	00.0	00.0	1	1000	1000	1	0090	0050	0080	00.0	00.0	00.0	0050	0100	0060	0990	1000
61057	2												0080	0040	0060	00.0	00.0	00.0	0060	0080	0060	0980	0990
61057	3												0700	0290	0670	08.0	05.0	07.7	0150	0140	0150	0960	0970
61057	4	0400	0310	0515	2	07.4	03.8	06.4	2	0800	0800	1	0320	0160	0330	03.6	02.1	03.7	0150	0440	0150	0980	1010
61058	0	0125	0065	0135	1	00.5	00.1	00.1	1	0975	0975	1	0170	0120	0090	00.7	00.0	00.1	0140	0200	0100	0900	0870
61058	1	0090	0070	0145	1	01.0	00.1	00.9	1	0900	0900	1	0120	0070	0090	00.7	00.0	00.4	0140	0180	0120	0860	0900
61058	2												0060	0130	0040	00.1	00.0	00.0	0120	0230	0130	0910	0910
61058	3												0150	0070	0090	00.8	00.1	00.1	0170	0240	0140	0870	0900
61058	4	0165	0115	0190	1	01.8	00.2	01.3	2	0950	0950	1	0220	0080	0040	01.6	00.2	00.0	0160	0240	0140	0940	0880
61059	0	0035	0025	0045	1	00.7	00.1	00.6	1	0800	0800	1	0050	0020	0050	00.4	00.3	00.7	0040	0120	0040	0750	0830
61059	1	0030	0025	0040	1	00.8	00.5	00.6	1	0850	0900	1	0080	0050	0040	00.6	00.3	00.8	0050	0110	0065	0740	0790
61059	2												1380	0150	1260	00.8	00.5	00.8	0070	0160	0080	0820	0820
61059	3												0030	0010	0020	00.5	00.6	00.5	0070	0090	0070	1050	1050
61059	4	0015	0030	0035	1	00.4	00.2	00.3	1	1050	1100	1	0040	0030	0040	00.5	00.3	00.4	0080	0220	0080	1030	1020

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DED IDLE TEST HC 1ST	HC 2500	HC 2ND	S	CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HOT IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
61060	0	0050	0030	0070	1	00.0	00.0	00.0	1	0700	0750	1	0060	0020	0070	00.0	00.0	00.0	0060	0090	0060	0710	0750
61060	1	0050	0030	0060	1	00.0	00.0	00.0	1	0750	0750	1	0120	0030	0100	00.0	00.0	00.0	0040	0100	0050	0670	0680
61060	2												0070	0020	0070	00.0	00.0	00.0	0070	0140	0060	0690	0680
61060	3												0170	0030	0060	00.0	00.0	00.0	0060	0100	0060	0650	0670
61060	4	0030	0015	0025	1	00.0	00.0	00.0	1	0775	0800	1	0100	0010	0050	00.0	00.0	00.0	0040	0100	0050	0690	0720
61061	0	0035	0025	0045	1	00.0	00.0	00.0	1	0850	0900	1	0080	0030	0070	00.0	00.0	00.0	0040	0280	0050	0840	0840
61061	1	0015	0010	0025	1	00.0	00.0	00.0	1	0600	0625	1	0090	0030	0060	00.0	00.0	00.0	0060	0520	0060	0810	0830
61061	2												0260	0070	0140	02.3	00.4	00.1	0090	0630	0070	0840	0840
61061	3												0090	0020	0100	00.0	00.0	00.0	0090	0550	0090	0870	0840
61061	4	0135	0080	0090	1	00.5	00.1	00.0	1	0800	0800	1	0150	0030	0030	00.5	00.0	00.0	0080	0580	0090	0940	0960
61062	0	0060	0040	0095	1	00.2	00.0	00.0	1	0450	0500	1	0410	0100	0140	00.2	00.1	00.1	0080	0180	0070	0590	0700
61062	1	0060	0060	0130	1	00.0	00.0	00.1	1	0800	0750	1	0170	0090	0160	00.1	00.1	00.1	0070	0200	0070	0660	0730
61062	2												0060	0150	0050	00.2	00.1	00.2	0070	0200	0080	0710	0740
61101	0	0015	0020	0025	1	00.0	00.0	00.0	1	1050	1050	1	0010	0020	0020	00.0	00.0	00.0	0040	0130	0050	1170	1240
61101	1	0010	0070	0020	1	00.5	00.5	00.0	1	1000	1000	1	0030	0010	0020	00.0	00.0	00.0	0060	0160	0060	1060	1150
61101	2												0020	0010	0010	00.0	00.0	00.0	0080	0200	0080	1040	1150
61101	3												0020	0010	0010	00.0	00.0	00.0	0120	0240	0130	0940	0950
61101	4	0065	0045	0045	1	02.0	00.6	01.8	2	0600	0600	1	0030	0010	0020	01.7	00.0	00.9	0080	0160	0070	0620	0700
61102	0	0015	0020	0015	1	00.0	00.0	00.0	1	0750	0750	1	0030	0020	0020	00.0	00.0	00.0	0060	0140	0060	0900	0910
61102	1	0020	0020	0020	1	00.0	00.0	00.0	1	1000	1000	1	0070	0030	0030	00.0	00.0	00.0	0050	0120	0040	0920	0990
61102	2												0010	0010	0010	00.0	00.0	00.0	0060	0170	0060	0970	0950
61102	3												0020	0020	0020	00.0	00.0	00.0	0060	0160	0060	0880	0870
61102	4	0020	0020	0030	1	00.0	00.0	00.0	1	1050	1100	1	0050	0030	0030	00.2	00.0	00.0	0030	0130	0050	0880	0900
61103	0	0035	0030	0045	1	00.0	00.0	00.0	1	1000	1000	1	0050	0060	0040	00.0	00.0	00.0	0070	0080	0070	0940	0950
61103	1	0025	0065	0040	1	00.0	00.0	00.0	1	0950	0950	1	0210	0060	0030	01.0	00.0	00.0	0140	0100	0070	0960	0940
61103	2												0050	0050	0040	00.0	00.0	00.0	0070	0090	0060	0950	0950
61103	3												0050	0080	0040	00.0	00.0	00.0	0060	0090	0060	0910	0920
61103	4	0170	0155	0350	1	00.6	00.2	00.1	1	0900	0900	1	0060	0040	0050	00.0	00.0	00.0	0040	0070	0040	0930	0930
61104	0	0030	0070	0045	1	00.0	00.5	00.0	1	0800	0800	1	0130	0030	0140	00.0	00.0	00.0	0080	0150	0080	0800	0810
61104	1	0015	0035	0035	1	00.0	00.5	00.0	1	0825	0825	1	0020	0050	0060	00.0	01.2	00.0	0060	0090	0070	0880	0850
61104	2												0180	0030	0060	00.0	00.1	00.0	0070	0150	0090	0750	0800
61104	3												0090	0060	0070	00.8	01.0	00.1	0140	0160	0120	1140	1130
61104	4	0155	0090	0190	1	05.1	02.4	04.6	2	1000	1300	1	0120	0050	0150	04.1	01.1	05.1	0120	0150	0120	0850	0850
61105	0	0030	0030	0065	1	00.2	00.5	00.7	1	1050	1150	1	0030	0020	0020	00.0	00.0	00.0	0110	0200	0120	1070	1060
61105	1	0005	0005	0005	1	00.0	00.0	00.0	1	0900	0900	1	0040	0020	0040	00.0	00.0	00.0	0145	0210	0140	1030	1030
61105	2												0010	0010	0010	00.0	00.0	00.0	0130	0230	0130	1480	1060
61105	3												0030	0010	0020	00.1	00.0	00.0	0120	0180	0120	1300	1110
61105	4	0015	0035	0030	1	00.0	00.2	00.0	1	1200	1800	1	0050	0020	0060	00.0	00.0	00.0	0080	0160	0060	1010	1030
61106	0	0185	0330	0270	1	00.0	00.0	00.0	1	0800	0850	1	0290	0160	0300	00.0	00.0	00.0	0050	0130	0050	0800	0820
61106	1	0250	0325	0220	1	00.0	00.0	00.0	1	0825	0825	1	0290	0230	0270	00.0	00.0	00.0	0060	0160	0080	0850	0860
61106	2												0460	0190	0360	00.0	00.0	00.0	0040	0140	0080	0840	0860
61106	3												0280	0130	0270	00.0	00.0	00.0	0060	0140	0080	0890	0910
61106	4	0315	0245	0365	2	00.0	00.0	00.0	1	0900	0900	1	0390	0140	0310	00.0	00.0	00.0	0080	0110	0080	0770	0880
61107	0	0020	0020	0020	1	00.0	00.0	00.0	1	0900	0900	1	0090	0050	0080	00.0	00.1	00.0	0100	0220	0100	0830	0830
61107	1	0040	0035	0030	1	00.0	00.0	00.0	1	0900	0900	1	0130	0060	0130	00.2	00.2	00.1	0090	0210	0080	0890	0850
61107	2												0470	0090	0390	00.9	00.2	01.0	0090	0240	0110	0730	0790
61107	4	1800	0500	1810	2	06.3	01.3	05.7	2	1000	1000	1	1370	0230	1280	04.7	00.4	04.8	0080	0130	0080	0800	0870

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
71000	0	0160	0080	0170	1	00.6	00.1	00.9	1	0800	0800	1	0130	0030	0110	00.3	00.2	00.3	0100	0150	0090	0820	0870
71000	1	0170	0250	0180	1	00.4	00.0	00.6	1				0230	0060	0220	00.6	00.4	00.5	0120	0190	0120	0780	0780
71000	2												0170	0020	0210	00.4	00.2	00.5	0100	0170	0100	0880	0890
71000	3												0150	0050	0150	00.4	00.2	00.4	0080	0160	0080	0840	0830
71000	4	0135	0040	0170	1	00.4	00.1	00.2	1	0800	0800	1	0120	0030	0110	00.4	00.2	00.3	0040	0110	0040	0790	0830
71001	0	0105	0050	0095	1	00.0	00.0	00.0	1	0650	0650	1	0120	0010	0050	00.0	00.0	00.0	0070	0190	0080	0660	0680
71001	1	0065	0025	0055	1	00.0	00.0	00.0	1	0700	0700	1	0140	0020	0040	00.1	00.0	00.0	0060	0250	0070	0640	0660
71001	2												0300	0020	0100	00.0	00.0	00.0	0080	0200	0100	0620	0650
71001	3												0070	0010	0060	00.0	00.0	00.0	0075	0360	0080	0660	0670
71001	4	0295	0560	0370	2	00.0	00.0	00.0	1	0700	0700	1	0300	0030	0140	00.0	00.0	00.0	0050	0190	0060	0610	0630
71002	0	0100	0085	0145	1	01.7	00.1	00.8	1			1	0100	0030	0070	01.8	00.2	00.9	0050	0150	0050	0760	0830
71002	1	0065	0040	0125	1	00.8	00.2	00.8	1	0800	0800	1	0120	0040	0120	00.8	00.2	00.8	0040	0110	0050	0750	0760
71002	2												0100	0050	0090	00.9	00.2	00.7	0060	0170	0060	0740	0790
71002	3												0140	0030	0120	00.6	00.2	00.7	0050	0140	0060	0670	0720
71002	4	0095	0035	0110	1	01.6	00.2	01.4	1	0800	0800	1	0080	0030	0080	00.8	00.3	00.6	0080	0150	0080	0770	0800
71003	0	0030	0025	0060	1	00.5	00.2	00.5	1	1000	1000	1	0080	0030	0060	00.8	00.3	00.6	0040	0100	0060	0850	0970
71003	1	0015	0010	0030	1	00.6	00.3	00.5	1	0950	0950	1	0060	0030	0050	01.1	00.3	00.7	0040	0260	0040	0920	0980
71003	2												0090	0020	0050	00.9	00.4	00.9	0050	0230	0060	0940	0970
71003	3												0040	0020	0030	00.7	00.3	00.6	0040	0420	0040	0970	0990
71003	4	0540	0510	0835	1	00.2	00.3	00.1	1	1200	1200	1	0780	1250	0840	00.2	00.7	00.3	0080	0360	0090	1150	1210
71004	0	0055	0050	0100	1	00.0	00.1	00.0	1	0850	0850	1	0080	0190	0080	00.0	00.0	00.0	0100	0100	0090	0890	0890
71004	1	0360	0610	0140	1	02.1	00.0	00.0	1	0900	0900	1	0430	0250	0100	03.6	00.0	00.0	0120	0100	0110	0900	0900
71004	2												0300	0300	0050	03.1	00.0	00.0	0130	0100	0130	0900	0970
71004	3												0090	0210	0060	00.0	00.0	00.0	0160	0100	0180	0950	0970
71004	4	0040	0335	0095	1	00.0	00.1	00.0	1	0800	0800	1	0420	0190	0060	01.3	00.0	00.0	0130	0100	0140	0880	0900
71005	0	0045	0030	0035	1	00.1	00.2	00.1	1	0900	0900	1	0050	0030	0050	00.0	00.4	00.0	0110	0160	0060	0740	0800
71005	1	0365	0085	0335	2	01.1	00.0	00.6	1				0380	0090	0480	00.4	00.1	00.5	0100	0200	0100	0830	0830
71005	2												0250	0060	0210	00.0	00.0	00.0	0030	0150	0030	0510	0550
71005	3												0140	0020	0170	00.9	00.0	00.9	0120	0280	0120	0740	0760
71005	4	0155	0030	0130	1	01.4	00.0	00.5	1	0750	0750	1	0020	0010	0060	00.0	00.0	00.1	0060	0250	0060	0730	0750
71006	0	0095	0135	0120	1	00.0	00.0	00.0	1	0600	0600	1	0180	0120	0140	00.0	00.0	00.0	0070	0120	0080	0680	0680
71006	1	0070	0050	0090	1	00.0	00.0	00.0	1	0800	0800	1	0130	0080	0110	00.0	00.0	00.0	0100	0210	0100	0710	0710
71006	2												0400	0170	0280	00.0	00.0	00.0	0080	0130	0080	0890	0810
71006	3												0360	0190	0270	00.0	00.1	00.0	0070	0140	0090	0790	0820
71006	4	0090	0055	0065	1	00.0	00.0	00.0	1	0850	0900	1	0080	0030	0030	00.0	00.0	00.0	0080	0160	0080	0830	0820
71007	0	0000	0000	0010	1	00.0	00.0	00.0	1	0900	0900	1	0030	0020	0020	00.0	00.0	00.0	0080	0180	0080	0910	0930
71007	1	0020	0045	0020	1	00.0	00.0	00.0	1	0900	0900	1	0020	0020	0020	00.0	00.0	00.0	0080	0240	0080	0930	0930
71007	2												0100	0020	0020	02.3	00.0	00.0	0120	0260	0080	0850	0900
71007	3												0080	0030	0030	01.4	00.0	00.0	0100	0320	0090	0850	0880
71007	4	0030	0025	0030	1	00.0	00.0	00.0	1	0950	0950	1	0020	0010	0010	00.0	00.0	00.0	0080	0270	0080	0940	0940
71008	0	0135	0085	0075	1	03.7	01.9	02.0	1	0800	0800	1	0170	0070	2130	04.2	01.2	04.2	0080	0220	0100	0800	0800
71008	1	0145	0080	0155	1	05.4	01.1	05.4	2	0875	0900	1	0180	0080	0180	05.7	01.5	05.6	0120	0190	0130	0850	0930
71008	2												0150	0050	0140	04.6	00.9	04.9	0120	0190	0130	0890	0930
71008	3												0120	0050	0120	02.6	00.6	02.8	0160	0240	0170	1040	1020
71008	4	0120	0075	0115	1	03.4	00.7	03.4	2	1150	1150	1	0120	0080	0110	04.9	02.5	03.1	0150	0320	0160	1070	2050
71009	0	0040	0040	0045	1	00.0	00.1	00.0	1	1050	1050	1	0180	0080	0140	00.0	00.0	00.0	0100	0170	0120	0980	1000
71009	1	0045	0030	0040	1	00.0	00.0	00.0	1	0900	0900	1	0150	0100	0130	00.0	00.0	00.0	0120	0180	0130	0900	0900
71009	2												0300	0060	0190	00.0	00.0	00.0	0100	0170	0110	0850	0890
71009	3												0050	0020	0060	00.0	00.0	00.0	0110	0190	0130	0800	0850
71009	4	0100	0045	0090	1	00.0	00.0	00.0	1	0850	0850	1	0090	0020	0080	00.0	00.0	00.0	0100	0150	0100	0900	0870

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HOT IDLE TEST HC 1ST	HOT IDLE TEST HC 2500	HOT IDLE TEST HC 2ND	HOT IDLE TEST CO 1ST	HOT IDLE TEST CO 2500	HOT IDLE TEST CO 2ND	HOT IDLE TEST NOX 1ST	HOT IDLE TEST NOX 2500	HOT IDLE TEST NOX 2ND	HOT IDLE TEST RPM 1ST	HOT IDLE TEST RPM 2ND
71010	0	0030	0015	0055	1	00.8	00.4	00.7	1	1000	1000	1	0080	0030	0070	00.7	00.4	00.6	0040	0090	0050	0900	0930
71010	1	0050	0030	0055	1	00.7	00.4	00.7	1	0900	0900	1	0070	0030	0070	00.8	00.4	00.7	0050	0080	0050	0840	0900
71010	2												0050	0010	0060	01.0	00.4	00.8	0050	0090	0060	0860	0930
71010	3												0040	0010	0040	00.7	00.4	00.6	0060	0100	0060	0940	0940
71010	4	0125	0040	0070	1	01.1	00.1	00.8	1	0950	0950	1	0060	0030	0050	00.8	00.4	00.6	0050	0080	0060	0910	0930
71011	0	0075	0080	0060	1	00.1	00.0	00.0	1	0800	0800	1	0070	0050	0050	00.0	00.0	00.0	0050	0090	0050	0900	0910
71011	1	0035	0020	0040	1	00.0	00.0	00.0	1	0900	0900	1	0040	0020	0030	00.0	00.0	00.0	0030	0080	0040	0900	0890
71011	2												0040	0020	0030	00.0	00.0	00.0	0050	0090	0060	0880	0910
71011	3												0090	0030	0060	00.6	00.0	00.0	0070	0170	0060	0850	0890
71011	4	0045	0045	0040	1	00.0	00.1	00.0	1	0950	0950	1	0030	0010	0040	00.0	00.0	00.0	0050	0140	0050	0940	0950
71012	0	0075	0040	0060	1	00.0	00.0	00.0	1	0750	0750	1	0250	0060	0160	00.0	00.2	00.0	0060	0140	0070	0680	0720
71012	1	0045	0025	0050	1	00.0	00.0	00.0	1	0800	0800	1	0120	0030	0100	00.0	00.0	00.0	0080	0160	0080	0740	0710
71012	2												0100	0020	0070	00.0	00.0	00.0	0060	0140	0070	0700	0700
71012	3												0070	0020	0060	00.0	00.0	00.0	0100	0180	0090	0730	0740
71012	4	0020	0055	0030	1	00.0	01.1	00.0	1	0900	0950	1	0040	0010	0030	00.0	00.0	00.0	0080	0140	0080	0710	0760
71013	0	0150	0065	0105	1	00.0	00.0	00.0	1	0500	0500	1	0550	0090	0350	00.0	00.1	00.0	0060	0160	0070	0400	0460
71013	1	0060	0040	0080	1	00.0	00.0	00.0	1	0500	0500	1	0190	0050	0100	00.0	00.0	00.0	0100	0170	0100	0440	0490
71013	2												0100	0080	0090	00.0	00.0	00.0	0070	0160	0070	0550	0440
71013	3												0140	0260	0110	00.0	00.0	00.0	0140	0230	0150	0910	0940
71013	4	0075	0220	0105	1	00.0	00.0	00.0	1	1000	1050	1	0130	0240	0100	00.0	00.0	00.0	0120	0220	0120	0980	0970
71014	0	0040	0035	0040	1	00.1	00.4	00.2	1	1200	1300	1	0050	0030	0040	00.1	00.4	00.1	0060	0080	0080	1060	1020
71014	1	0135	0115	0135	1	00.1	00.3	00.1	1	1050	1050	1	0060	0030	0050	00.1	00.4	00.1	0080	0100	0080	0940	1010
71014	2												0070	0030	0050	00.1	00.5	00.1	0080	0080	0070	1060	1120
71014	3												0030	0000	0020	00.1	00.4	00.1	0060	0080	0070	1120	1140
71014	4	0040	0065	0055	1	00.1	00.2	00.1	1	1000	1000	1	0050	0030	0040	00.1	00.5	00.1	0090	0100	0090	1110	1110
71015	0	0030	0040	0035	1	00.1	00.1	00.0	1	0550	0550	1	0100	0020	0060	00.0	00.0	00.0	0090	0180	0100	0520	0580
71015	1	0240	0040	0070	1	00.4	00.0	00.1	1	0700	0700	1	0170	0020	0130	00.0	00.0	00.0	0080	0170	0080	0570	0600
71015	2												0070	0020	0060	00.0	00.0	00.0	0090	0190	0080	0580	0560
71015	3												0320	0080	0310	03.9	00.2	03.2	0130	0220	0140	0570	0590
71015	4	0285	0225	0745	2	03.9	01.3	03.7	2	0800	0800	1	0710	0090	0300	01.3	00.0	04.7	0120	0190	0130	0600	0640
71016	0	0090	0040	0140	1	00.4	00.2	00.3	1	1000	1000	1	0160	0030	0080	00.3	00.3	00.3	0070	0110	0070	0880	0920
71016	1	0030	0020	0045	1	00.4	00.2	00.2	1	1050	1050	1	0110	0030	0100	00.3	00.3	00.3	0060	0100	0060	0960	0990
71016	2												0100	0020	0140	00.2	00.4	00.2	0050	0070	0050	0820	0880
71016	3												0520	0060	0500	00.2	00.4	00.2	0110	0090	0080	0810	0850
71016	4	0025	0020	0065	1	00.5	00.5	00.4	1	1100	1100	1	0030	0010	0030	00.6	00.3	00.6	0040	0070	0050	1030	1030
71017	0	0015	0015	0020	1	00.0	00.0	00.0	1	0800	0800	1	0030	0050	0030	00.0	00.0	00.0	0040	0080	0050	0740	0740
71017	1	0015	0015	0020	1	00.0	00.0	00.0	1	0800	0800	1	0060	0080	0030	00.5	00.0	00.0	0060	0090	0060	0670	0710
71017	2												0020	0010	0010	00.0	00.0	00.0	0040	0070	0040	0700	0760
71017	3												0020	0020	0020	00.0	00.0	00.0	0040	0080	0060	0750	0750
71017	4	0030	0030	0040	1	00.0	00.1	00.0	1	0600	0600	1	0060	0030	0030	00.0	00.0	00.0	0040	0070	0040	0590	0630
71018	0	0015	0015	0035	1	00.4	00.2	00.1	1	0850	0850	1	0030	0020	0030	00.8	00.3	00.8	0060	0100	0060	0840	0820
71018	1	0025	0055	0025	1	00.6	01.0	00.5	1	0850	0850	1	0040	0020	0050	00.9	00.3	00.8	0040	0090	0060	0800	0840
71018	2												0050	0020	0050	01.1	00.3	00.9	0060	0090	0060	0810	0860
71018	3												0030	0010	0030	00.8	00.2	00.6	0060	0100	0060	0840	0850
71018	4	0020	0020	0060	1	00.5	00.1	00.5	1	0850	0850	1	0050	0020	0040	00.9	00.3	00.7	0060	0090	0060	0880	0890
71019	0	0030	0035	0030	1	00.0	00.1	00.0	1	1000	1000	1	0120	0120	0090	00.0	00.0	00.0	0120	0150	0140	0780	0900
71019	1	0020	0015	0025	1	00.0	00.1	00.0	1	1050	1100	1	0120	0120	0100	00.0	00.0	00.0	0120	0140	0120	0890	0990
71019	2												0650	0170	0450	00.0	00.1	00.0	0120	0140	0130	0950	0980
71019	3												0230	0080	0160	00.0	00.0	00.0	0150	0190	0160	0880	0980
71019	4	0090	0070	0070	1	00.0	00.0	00.0	1	0675	0750	1	0160	0060	0090	00.0	00.0	00.0	0030	0180	0160	0860	0950

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	SEQ	IDLE TEST HC 1ST	IDLE TEST HC 2500	IDLE TEST HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HOT IDLE TEST HC 1ST	HOT IDLE TEST HC 2500	HOT IDLE TEST HC 2ND	HOT IDLE TEST CO 1ST	HOT IDLE TEST CO 2500	HOT IDLE TEST CO 2ND	HOT IDLE TEST NOX 1ST	HOT IDLE TEST NOX 2500	HOT IDLE TEST NOX 2ND	HOT IDLE TEST RPM 1ST	HOT IDLE TEST RPM 2ND
71020	0	0015	0020	0025	1	00.0	00.0	00.0	1	1000	1200	1	0150	0040	0050	00.3	00.0	00.0	0110	0500	0100	0860	1150
71020	1	0020	0025	0070	1	00.1	00.6	00.5	1	0950	0950	1	0020	0020	0020	00.0	00.0	00.0	0120	0300	0110	0980	0970
71021	0	0080	0025	0025	1	00.0	00.0	00.0	1	0700	0750	1	0060	0020	0050	00.0	00.0	00.0	0060	0170	0070	0700	0720
71022	0	0140	0025	0050	1	00.5	00.5	00.5	1	0800	1100	1	0050	0030	0030	00.2	00.6	00.2	0070	0070	0060	1040	1030
71022	1	0040	0035	0050	1	00.1	00.3	00.1	1	1100	1100	1	0060	0030	0050	00.1	00.5	00.2	0060	0070	0070	0950	1010
71022	2												0060	0030	0060	00.2	00.5	00.2	0060	0080	0060	0890	0920
71022	3												0050	0020	0040	00.2	00.4	00.2	0070	0080	0070	0850	0870
71022	4	0030	0020	0055	1	00.4	00.6	00.1	1	0800	0800	1	0030	0010	0030	00.2	00.5	00.2	0050	0060	0060	0860	0870
71051	0	0165	0055	0260	1	00.2	00.1	00.2	1	0900	0900	1	0330	0090	0300	00.3	00.3	00.3	0080	0160	0080	0820	0850
71051	1	0050	0025	0170	1	00.1	00.1	00.1	1	0550	0550	1	0180	0060	0220	00.2	00.3	00.3	0070	0170	0070	0800	0850
71051	2												0210	0040	0230	00.2	00.6	00.2	0080	0160	0080	0790	0810
71051	3												0200	0030	0160	00.2	00.2	00.2	0080	0200	0090	0840	0840
71051	4	0105	0085	0170	1	00.2	00.4	00.1	1	1050	1050	1	0150	0030	0110	00.3	00.3	00.2	0080	0140	0080	0960	0920
71052	0	0055	0010	0020	1	00.9	00.1	00.0	1	0800	0800	1	0050	0030	0050	00.0	00.0	00.0	0040	0090	0040	0790	0860
71052	1	0060	0020	0030	1	01.4	00.1	00.7	1	0950	0950	1	0140	0030	0050	00.4	00.0	00.0	0090	0140	0080	0820	0940
71053	0	0080	0050	0125	1	00.1	00.2	00.1	1	0900	0900	1	0200	0050	0180	00.2	00.2	00.2	0090	0170	0090	0900	0900
71053	1	0115	0040	0125	1	00.1	00.1	00.1	1	0950	0950	1	0160	0030	0160	00.2	00.2	00.2	0070	0160	0080	0900	0880
71053	2												0120	0030	0120	00.2	00.2	00.2	0080	0160	0080	0930	0870
71053	3												0110	0020	0090	00.2	00.2	00.2				0960	0930
71053	4	0090	0065	0185	1	00.1	00.1	00.1	1	0750	0750	1	0080	0020	0050	00.1	00.1	00.2	0080	0140	0080	0780	0780
71054	0	0075	0020	0085	1	00.0	00.0	00.0	1	1050	1050	1	0060	0020	0040	00.0	00.0	00.0	0080	0130	0080	1080	1040
71054	1	0060	0040	0050	1	00.0	00.0	00.0	1	1100	1150	2	0140	0050	0090	00.0	00.0	00.0	0080	0120	0080	1070	1050
71054	2												0270	0080	0200	00.0	00.1	00.0	0080	0150	0100	0970	1010
71054	3												0140	0030	0090	00.0	00.0	00.0	0090	0160	0110	0990	1030
71054	4	0065	0040	0075	1	00.0	00.0	00.0	1	1200	1200	2	0090	0010	0080	00.0	00.0	00.0	0070	0120	0060	1100	1030
71055	0	0020	0025	0025	1	00.0	00.0	00.0	1	0800	0800	1	0020	0010	0020	00.0	00.0	00.0	0060	0120	0080	0710	0710
71055	1	0030	0030	0040	1	00.0	00.1	00.0	1	0750	0750	1	0040	0020	0030	00.0	00.0	00.0	0080	0120	0080	0680	0720
71055	2												0060	0020	0080	00.0	00.0	00.3	0090	0160	0100	0690	0770
71055	3												0020	0010	0120	00.0	00.0	00.5	0140	0240	0100	0720	0660
71055	4	0025	0020	0025	1	00.0	00.0	00.0	1	0700	0700	1	0050	0010	0020	00.0	00.0	00.0	0070	0140	0080	0650	0670
71056	0	0015	0020	0045	1	00.5	00.0	00.0	1	0900	0850	1	0060	0060	0100	00.0	00.0	00.0	0080	0190	0080	0730	0860
71056	1	0055	0045	0065	1	00.0	00.0	00.0	1	0850	0850	1	0080	0090	0070	00.0	00.0	00.0	0060	0140	0100	0800	0890
71056	2												0140	0110	0060	00.0	00.0	00.0	0080	0160	0110	0740	0880
71056	3												0160	0120	0060	00.0	00.0	00.0	0150	0210	0160	0900	0940
71056	4	0200	0730	0190	1	00.0	00.0	00.0	1	1200	1250	2	0400	0770	0220	00.0	00.1	00.0	0160	0320	0200	1020	1190
71057	0	0050	0040	0090	1	00.0	00.0	00.0	1	0800	0800	1	0060	0030	0050	00.0	00.0	00.0	0100	0190	0100	0830	0840
71058	0	0170	0060	0230	1	01.0	00.1	01.3	1	0700	0700	1	0030	0020	0030	00.0	00.0	00.0	0070	0210	0080	0600	0620
71058	1	0065	0020	0090	1	00.4	00.0	00.6	1	0800	0800	1	0040	0010	0030	00.0	00.0	00.0	0090	0150	0070	0800	0810
71058	2												0200	0010	0210	00.9	00.0	01.1	0120	0180	0120	0700	0700
71058	3												0150	0010	0180	00.5	00.0	01.3	0080	0180	0100	0690	0710
71058	4	0175	0065	0175	1	01.9	00.1	01.7	2	0800	0800	1	0180	0030	0150	01.7	00.0	01.9	0110	0180	0110	0720	0700
71059	0	0035	0150	0045	1	00.0	00.0	00.0	1	0825	0850	1	0370	0140	0110	03.1	00.0	00.0	0110	0140	0100	0900	1000
71059	1	0040	0075	0045	1	00.0	00.0	00.0	1	0950	0950	1	0080	0040	0060	00.0	00.0	00.0	0140	0180	0150	0970	1030
71059	2												0070	0050	0060	00.0	00.0	00.0	0120	0195	0120	1020	0960
71059	3												0090	0080	0080	00.0	00.0	00.0	0220	0120	0290	1080	1120
71059	4	0050	0215	0055	1	00.1	00.0	00.0	1	0800	0800	1	0060	0110	0030	00.0	00.0	00.0	0130	0090	0150	1040	1050

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	S E Q	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	TEST CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
71060	0	0130	0150	0125	1	02.3	05.0	02.5	1	1050	1100	1	0140	0110	0110	01.5	02.8	01.4	0120	0280	0120	0970	1000
71061	0	0050	0060	0060	1	00.8	01.1	00.7	1	0800	0800	1	0090	0020	0030	00.2	00.0	01.1	0070	0600	0070	0750	0750
71061	1	0140	0075	0055	1	00.8	00.6	00.3	1	0800	0800	1	0020	0030	0050	00.2	00.0	00.0	0050	0580	0070	0780	0760
71061	2												0100	0020	0060	00.0	00.0	00.0	0100	0480	0100	0710	0710
71061	3												0090	0030	0090	00.6	00.0	00.1	0130	0440	0110	0660	0750
71061	4	0095	0075	0100	1	02.3	01.3	02.1	2	0800	0800	1	0060	0020	0070	00.0	00.0	00.0	0070	0310	0060	0700	0710
71062	0	0090	0045	0095	1	00.2	00.0	00.2	1	0950	0950	1	0200	0050	0200	00.6	00.2	00.5	0070	0170	0070	0890	0860
71062	1	0110	0115	0125	1	01.0	00.3	01.1	1	0900	0900	1	0170	0050	0150	00.7	00.3	00.7	0060	0180	0070	0840	0850
71062	2												0040	0010	0050	00.0	00.0	00.0	0060	0180	0060	0880	0900
71062	3												0030	0020	0140	00.0	00.0	00.0	0080	0260	0070	0910	0890
71062	4	0075	0040	0075	1	00.9	00.6	00.8	1	0850	0850	1	0130	0050	0100	01.9	01.1	01.9	0090	0140	0080	0910	0930
71063	0	0050	0085	0055	1	00.0	00.0	00.0	1	0800	0800	1	0080	0020	0060	00.0	00.0	00.0	0090	0180	0100	0720	0740
71063	1	0030	0030	0030	1	00.0	00.0	00.0	1	0700	0700	3	0120	0020	0100	00.0	00.0	00.0	0060	0160	0070	0720	0740
71064	0	0020	0020	0020	1	00.0	00.0	00.0	1	0600	0625	1	0030	0020	0030	00.0	00.0	00.0	0080	0310	0080	0610	0640
71064	1	0095	0035	0035	1	00.0	00.0	00.0	1	0600	0600	1	0090	0020	0030	00.0	00.0	00.0	0060	0240	0080	0540	0600
71064	2												0060	0030	0030	00.0	00.0	00.0	0070	0280	0080	0610	0670
71064	3												0060	0020	0030	00.0	00.1	00.0	0060	0300	0060	0630	0690
71064	4	0020	0030	0055	1	00.0	00.1	00.0	1	0900	0900	1	0010	0010	0010	00.0	00.0	00.0	0040	0190	0050	0730	0710
71065	0	0025	0065	0125	1	00.0	00.1	00.3	1	0700	0700	1	0350	0120	0240	00.4	00.2	00.5	0090	0190	0100	0650	0680
71065	1	0160	0075	0225	2	01.7	00.0	01.6	2	0700	0700	1	0080	0070	0080	00.2	00.0	00.1	0080	0210	0080	0650	0660
71065	2												0200	0160	0230	02.3	00.4	01.8	0120	0340	0130	0820	0810
71065	4	0235	0130	0350	2	03.1	00.6	02.8	2	0825	0900	1	0270	0180	0300	03.9	00.4	03.4	0060	0210	0090	0720	0750
71066	0	0195	0300	0195	1	00.0	00.1	00.0	1	0800	0800	1	0190	0140	0160	00.0	00.0	00.0	0070	0160	0080	0830	0810
71066	1	0050	0035	0065	1	00.0	00.0	00.0	1	0875	0875	1	0060	0050	0060	00.0	00.0	00.0	0080	0140	0085	0800	0810
71066	2												0140	0080	0130	00.0	00.0	00.0	0080	0150	0080	0850	0830
71066	4	0580	0045	0635	2	00.0	00.1	00.0	1	0800	0800	1	0200	0050	0180	00.0	00.0	00.0	0080	0210	0080	0790	0800
71067	0	0110	0065	0230	1	00.0	00.0	00.1	1	0800	0800	1	0240	0120	0180	00.1	00.0	00.1	0050	0210	0060	0620	0660
71067	1	0080	0040	0085	1	00.3	00.1	00.3	1	1050	1050	1	0110	0040	0100	00.2	00.2	00.3	0045	0065	0055	0810	0860
71067	2												0620	0070	0670	00.2	00.3	00.2	0050	0130	0050	0780	0820
71067	3												0150	0030	0200	00.4	00.2	00.4	0060	0110	0060	0750	0790
71067	4	0095	0090	0235	1	00.3	00.3	00.3	1	1000	1000	1	0170	0050	0140	00.4	00.2	00.4	0040	0080	0040	1010	1010
71068	0	0070	0040	0075	1	00.0	00.0	00.0	1	1000	1000	1	0130	0060	0090	02.2	00.2	00.2	0060	0120	0070	0980	1070
71068	1	0055	0030	0045	1	00.0	00.0	00.0	1	1050	1050	1	0040	0020	0050	00.0	00.0	00.0	0060	0220	0080	1080	1120
71068	2												0020	0020	0020	00.0	00.0	00.0	0070	0160	0060	1020	1000
71068	3												0080	0030	0070	00.2	00.0	00.1	0050	0160	0060	0990	1020
71068	4	0205	0060	0170	1	00.2	00.3	00.2	1				0160	0040	0190	01.3	00.4	00.9	0080	0230	0080	0830	0870
71069	0	0055	0030	0085	1	01.7	00.1	01.6	1	0900	0900	1	0270	0120	0230	02.9	00.4	02.6	0060	0340	0070	0840	0890
71069	1	0155	0060	0175	1	02.7	00.2	02.9	2	0900	0900	1	0170	0080	0210	02.4	00.9	02.6	0080	0260	0100	0810	0900
71069	2												0210	0070	0200	03.0	00.8	02.4	0100	0300	0100	0890	0900
71069	3												0210	0090	0200	03.6	01.2	03.3	0100	0380	0090	0910	0910
71069	4	0200	0125	0190	1	03.0	00.9	02.4	2	0950	0950	1	0210	0050	0150	02.1	00.6	01.3	0100	0280	0100	0860	0930
71070	0	0105	0040	0195	1	01.7	00.2	02.0	1	1000	1000	1	0130	0080	0130	01.5	00.3	01.6	0100	0180	0100	0790	0810
71070	1	0100	0050	0115	1	02.0	00.3	01.9	1	0950	0950	1	0100	0040	0120	01.2	00.2	01.5	0110	0200	0120	0860	0850
71070	2												0090	0030	0100	02.4	00.5	02.9	0140	0210	0140	0960	0930
71070	3												0090	0030	0090	03.1	00.6	03.5	0140	0200	0150	1010	0990
71070	4	0080	0045	0095	1	02.6	00.5	02.6	2	1100	1100	1	0090	0030	0080	01.8	00.4	02.4	0110	0200	0130	1080	1050

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPANO	SE	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
71071	0	0040	0055	0070	1	01.0	00.5	01.0	1	0800	0800	1	0120	0030	0090	01.7	00.3	00.8	0060	0080	0040	0680	0740
71071	1	0040	0015	0070	1	00.3	00.2	00.3	1	0900	0950	1	0130	0030	0140	00.3	00.3	00.3	0040	0090	0050	0780	0820
71071	2												0160	0020	0140	00.2	00.4	00.2	0080	0120	0060	0740	0800
71071	3												0050	0020	0060	00.9	00.3	00.8	0060	0130	0070	0850	0890
71071	4	0030	0020	0235	1	01.0	00.2	00.5	1	0900	0900	1	0030	0010	0020	00.9	00.3	00.8	0050	0090	0050	0880	0910
71072	0	0045	0020	0060	1	00.0	00.1	00.0	1	0750	0750	1	0100	0020	0090	00.0	00.0	00.0	0050	0110	0050	0800	0720
71072	1	0040	0030	0035	1	00.0	00.5	00.0	1	0850	0850	1	0140	0020	0080	00.0	00.0	00.0	0060	0120	0060	0750	0760
71072	2												0450	0040	0160	00.0	00.0	00.0	0060	0140	0065	0700	0720
71072	3												0140	0030	0050	00.0	00.0	00.0	0100	0150	0080	0730	0740
71072	4	0045	0050	0040	1	00.0	01.5	00.0	1	0600	0600	1	0050	0010	0050	00.0	00.0	00.0	0030	0160	0030	0500	0530
71073	0	0095	0050	0130	1	00.2	00.1	00.2	1	0900	0900	1	0240	0050	0140	00.2	00.2	00.3	0060	0080	0060	0780	0830
71073	1	0015	0001	0015	1	00.1	00.1	00.1	1	1050	1050	1	0030	0020	0050	00.2	00.3	00.5	0080	0080	0050	1020	0950
71073	2												0040	0010	0050	00.9	00.3	00.7	0050	0080	0050	0770	0810
71074	0	0080	0045	0090	1	00.0	00.0	00.0	1	1025	1050	1	0110	0020	0120	00.0	00.2	00.0	0210	0610	0220	1050	1080
71074	1	0045	0140	0065	1	00.0	01.7	00.0	1	1000	1000	1	0080	0020	0100	00.0	00.0	00.0	0100	0420	0130	1030	1020
71074	2												0090	0090	0050	00.5	00.0	00.6	0090	0220	0100	0930	0960
71074	3												0120	0140	0170	00.4	00.5	00.8	0060	0390	0080	0910	0920
71074	4	0675	0310	0745	2	06.8	06.4	06.6	2	0800	0800	1	0610	0250	0610	05.2	00.2	06.3	0110	0380	0120	0820	0830
71075	0	0080	0035	0085	1	00.9	00.1	00.9	1	1100	1100	1	0130	0020	0120	01.0	00.5	00.8	0080	0200	0090	0920	0900
71075	1	0130	0080	0125	1	01.5	01.0	01.4	1	0925	0950	1	0140	0050	0140	01.5	00.9	01.3	0100	0120	0080	0860	0890
71075	2												0120	0030	0120	01.5	00.9	01.3	0080	0160	0080	0890	0900
71075	3												0080	0020	0060	00.5	00.4	00.4	0090	0170	0080	0890	0890
71075	4	0045	0060	0060	1	00.2	01.0	00.4	1	0900	0960	1	0030	0010	0020	00.0	00.0	00.0	0080	0160	0080	1060	1030
71076	0	0235	0185	0130	1	00.5	00.5	00.0	1	0800	0800	1	0190	0060	0130	00.0	00.0	00.0	0120	0210	0120	0830	0850
71076	1	0055	0070	0055	1	00.0	00.0	00.0	1	0900	0900	1	0140	0100	0130	00.0	00.0	00.0	0120	0230	0130	0890	0930
71076	2												0090	0060	0060	00.0	00.0	00.0	0140	0190	0150	0880	0890
71076	3												0090	0090	0060	00.0	00.8	00.0	0120	0180	0120	0820	0930
71076	4	0590	0235	0505	2	03.8	00.1	02.8	2	0800	0800	1	0460	0160	0430	02.6	00.6	02.5	0100	0170	0110	0760	0790
71101	0	0065	0105	0065	1	00.0	00.1	00.0	1	0800	0800	1	0310	0160	0120	00.2	00.3	00.0	0040	0120	0060	0690	0730
71101	1	0030	0090	0090	1	00.0	00.7	00.0	1	0800	0800	1	0170	0110	0060	00.0	00.0	00.0	0060	0120	0070	0600	0700
71101	2												0060	0080	0060	00.0	00.0	00.0	0080	0150	0080	0730	0730
71102	0	0185	0095	0130	1	00.0	00.0	00.0	1	0825	0900	1	0480	0040	0110	01.0	00.0	00.0	0080	0110	0080	0800	0900
71102	1	0160	0165	0135	1	00.0	00.0	00.0	1	0950	0950	1	0140	0050	0080	00.0	00.0	00.0	0090	0120	0110	0800	0830
71102	2												0140	0050	0120	00.0	00.0	00.0	0080	0100	0100	0750	0800
71102	3												0180	0050	0130	00.0	00.0	00.0	0140	0160	0180	0760	0830
71102	4	0160	0065	0090	1	00.0	00.0	00.0	1	0850	0900	1	0090	0040	0090	00.0	00.0	00.0	0100	0120	0090	0790	0800
71103	0	0100	0230	0170	1	00.0	00.0	00.0	1	0750	0800	1	0170	0030	0200	00.0	00.0	00.0	0040	0180	0060	0770	0770
71104	0	0075	0150	0085	1	00.0	00.6	00.0	1	0800	0800	1	0120	0030	0120	00.0	00.0	00.0	0090	0200	0090	0770	0760
71104	1	0055	0070	0055	1	00.0	00.5	00.0	1	0800	0800	1	0160	0030	0100	00.0	00.0	00.0	0070	0280	0090	0700	0770
71104	2												0840	0120	0760	00.8	00.3	01.7	0110	0200	0120	0750	0780
71104	3												0650	0030	0560	00.9	00.0	01.5	0120	0260	0140	0710	0730
71104	4	0065	0050	0085	1	00.1	00.1	00.1	1	0800	0800	1	0120	0020	0090	00.0	00.0	00.0	0080	0170	0090	0740	0760
71105	0	0145	0215	0185	1	02.4	03.4	00.7	1	0975	0975	1	0190	0180	0170	00.3	02.7	00.0	0100	0210	0090	0970	0980
71105	1	0125	0140	0275	1	01.4	02.2	01.6	2	0900	1000	1	0160	0160	0120	00.9	02.6	00.4	0100	0260	0110	0900	0940
71105	2												0030	0090	0030	00.0	01.7	00.0	0090	0150	0090	0860	0880
71105	3												0160	0180	0170	01.8	03.4	01.9	0180	0460	0170	1060	1070
71105	4	0135	0110	0230	1	03.1	02.8	03.0	2	1200	1200	1	0110	0200	0130	00.5	04.1	01.2	0120	0310	0130	1030	1070

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPA ND	SEQ	DEU HC 1ST	DEU HC 2500	DEU HC 2ND	DEU S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	IDLE CO S	TEST RPM 1ST	TEST RPM 2ND	TEST S	HOT HC 1ST	HOT HC 2500	HOT HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
71106	0	0055	0035	0105	1	00.3	00.3	00.1	1	1100	1150	1	0050	0020	0050	00.1	00.3	00.1	0080	0120	0070	1020	1030
71106	1	0040	0015	0065	1	00.2	00.2	00.1	1	1150	1200	1	0030	0020	0040	00.2	00.3	00.2	0070	0100	0080	1100	1080
71106	2												0050	0020	0050	00.2	00.3	00.2	0060	0100	0080	1040	1090
71106	3												0050	0020	0040	00.4	00.3	00.4	0030	0060	0040	1070	1050
71106	4	0025	0020	0125	1	00.3	00.2	00.3	1	1200	1200	1	0060	0020	0040	00.2	00.3	00.3	0070	0110	0080	1050	1050
71107	0	0025	0020	0050	1	00.6	00.2	00.6	1	1000	1000	1	0030	0020	0030	00.6	00.2	00.5	0050	0090	0050	0890	0930
71107	1	0015	0010	0035	1	00.6	00.7	00.6	1	0950	1000	1	0020	0020	0060	00.8	00.3	00.7	0060	0100	0060	0920	0960
71107	2												0030	0010	0030	00.9	00.3	00.8	0050	0070	0040	0950	0970
71107	3												0070	0020	0060	00.5	00.3	00.6	0040	0080	0050	0830	0890
71107	4	0035	0020		1	00.6	00.1	.	1	1000	1000	1	0050	0020	0050	00.6	00.3	00.6	0020	0050	0040	0870	0870
71108	0	0040	0075	0060	1	00.0	01.5	00.0	1	0900	0900	1	0090	0050	0080	00.0	00.2	00.0	0060	0200	0080	0750	0850
71109	0	0120	0160	0140	1	03.1	01.3	03.0	1	1200	1200	1	0080	0120	0090	00.9	03.6	01.2	0100	0190	0110	0840	0860
71109	1	0120	0080	0125	1	02.4	02.1	02.4	1	0850	0950	1	0150	0060	0150	01.3	00.7	02.0	0090	0220	0100	0810	0850
71109	2												0100	0060	0090	00.2	01.8	00.5	0090	0200	0100	0710	0840
71109	3												0100	0050	0130	00.7	00.5	01.0	0100	0360	0100	0720	0740
71109	4	0060	0080	0105	1	00.2	01.3	00.2	1	0900	0900	1	0050	0040	0050	00.1	00.7	00.1	0060	0160	0060	0790	0810
71110	0	0080	0045	0130	1	00.3	00.3	00.3	1	0800	0800	1	0130	0060	0120	00.4	00.3	00.2	0060	0130	0060	0800	0800
71110	1	0145	0060	0155	1	00.1	00.6	00.2	1				0170	0080	0160	00.2	00.3	00.2	0050	0120	0050	0760	0770
71110	2												0150	0030	0120	00.1	00.2	00.1	0040	0140	0050	0710	0790
71110	3												0130	0040	0120	00.4	00.3	00.3	0040	0100	0040	0760	0810
71110	4	0055	0055	0100	1	00.2	00.5	00.1	1	0700	0650	1	0060	0020	0070	00.1	00.2	00.1	0040	0090	0040	0720	0760
71111	0	0045	0025	0065	1	00.2	00.1	00.2	1	0750	0800	1	0070	0030	0070	00.3	00.4	00.4	0060	0110	0060	0870	0900
71111	1	0055	0030	0075	1	00.1	00.2	00.1	1	0900	0900	1	0100	0040	0080	00.3	00.4	00.1	0080	0120	0080	0800	0830
71111	2												0090	0020	0050	00.6	00.4	00.5	0040	0080	0050	0840	0900
71111	3												0070	0020	0050	00.4	00.4	00.4	0060	0120	0070	0860	0910
71111	4	0040	0025	0090	1	00.4	00.2	00.4	1	0950	1000	1	0070	0020	0060	00.3	00.3	00.4	0040	0030	0040	0880	0930
71112	0	0015	0010	0020	1	00.0	00.0	00.0	1	0800	0800	1	0060	0030	0030	00.0	00.0	00.0	0070	0240	0070	0700	0700
71112	1	0040	0025	0045	1	00.0	00.0	00.0	1	0800	0800	1	0130	0030	0030	00.7	00.0	00.0	0080	0300	0060	0660	0720
71112	2												0050	0020	0020	00.0	00.0	00.0	0070	0250	0060	0650	0720
71112	3												0190	0030	0070	00.0	00.0	00.0	0060	0300	0060	0560	0550
71112	4	0050	0035	0080	1	00.0	00.0	00.0	1	0600	0600	1	0080	0020	0060	00.0	00.0	00.0	0040	0230	0040	0580	0590
71113	0	0060	0250	0090	1	00.0	00.0	00.0	1	0750	0750	1	0090	0130	0060	00.0	00.0	00.0	0080	0190	0100	0750	0770
71113	1	0025	0010	0010	1	00.0	00.0	00.0	1	0675	0700	1	0050	0070	0040	00.0	00.0	00.0	0060	0140	0070	0760	0760
71113	2												0260	1490	0200	00.2	00.3	00.2	0110	0340	0120	0700	0690
71113	3												0080	0020	0130	00.1	00.0	00.0	0090	0450	0100	0920	0720
71113	4	0475	0655	0540	2	05.0	01.0	05.2	2	0900	0900	1	0460	1060	0520	05.1	00.2	05.1	0120	0220	0130	0850	0870
71114	0	0045	0040	0045	1	00.0	00.1	00.0	1	0800	0800	1	0080	0010	0060	00.0	00.0	00.0	0040	0140	0060	0670	0710
71114	1	0025	0015	0020	1	00.0	00.0	00.0	1	0650	0650	1	0020	0010	0020	00.0	00.0	00.0	0040	0120	0040	0600	0610
71114	2												0340	0030	0270	01.8	00.1	02.0	0100	0160	0110	0770	0790
71114	3												0210	0030	0190	01.6	00.0	01.5	0100	0140	0100	0810	0800
71114	4	0235	0170	0345	2	02.9	00.2	02.7	2	0850	0850	1	0280	0020	0210	02.5	00.0	02.1	0100	0130	0100	0790	0820
71115	0	0110	0025	0080	1	00.6	00.0	00.2	1	0900	0900	1	0060	0020	0050	00.0	00.0	00.0	0040	0170	0060	0860	0900
71115	1	0135	0050	0110	1	02.2	00.1	01.7	2	0900	0900	1	0060	0020	0030	00.1	00.0	00.0	0090	0140	0090	0860	0870
71115	2												0050	0020	0030	00.0	00.0	00.0	0090	0140	0070	0880	0870
71115	4	0070	0065	0065	1	00.2	00.8	00.0	1	1000	1000	1	0100	0020	0070	00.0	00.0	00.0	0080	0120	0080	0860	0860
71116	0	0020	0020	0040	1	00.7	00.1	00.7	1	1000	1000	1	0050	0020	0050	00.7	00.3	00.8	0040	0100	0040	0900	0950
71116	1	0015	0015	0030	1	00.7	00.1	00.7	1	0950	0950	1	0030	0020	0040	00.8	00.3	00.8	0060	0120	0060	0960	0960
71116	2												0060	0020	0060	00.9	00.3	00.7	0040	0110	0050	0880	0950
71116	3												0030	0010	0030	00.9	00.5	00.7	0050	0130	0060	1010	1040
71116	4	0025	0025	0035	1	00.5	00.3	00.4	1	1100	1100	1	0030	0020	0030	00.6	00.4	00.5	0030	0060	0040	1060	1130

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND PASS

EPAND	S E Q	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
71117	0	0070	0075	0095	1	00.0	00.2	00.0	1	1000	1000	1	0120	0100	0120	00.1	00.6	00.0	0060	0230	0060	0960	0950
71117	1	0070	0090	0075	1	00.0	00.8	00.0	1	1000	1000	1	0120	0070	0120	00.4	00.4	00.1	0070	0290	0080	0890	0890
71117	2												0140	0080	0090	00.9	00.8	00.1	0100	0260	0080	0960	0970
71117	4	0125	0150	0140	1	01.4	02.5	00.1	1	1000	1000	1	0100	0090	0060	00.6	00.8	00.0	0100	0380	0080	0980	0950
71118	0	0140	0085	0090	1	00.3	00.1	00.1	1	0800	0800	1	0090	0040	0060	00.0	00.0	00.0	0170	0200	0100	0780	0760
71118	1	0085	0050	0090	1	00.1	00.7	00.1	1	0800	0800	1	0120	0030	0060	00.0	00.0	00.0	0100	0180	0110	0780	0790
71118	2												0050	0010	0040	00.0	00.0	00.0	0100	0460	0130	0720	0740
71118	3												0090	0030	0070	00.0	00.0	00.0	0100	0220	0120	0760	0780
71118	4	0290	0035	0220	2	02.6	00.0	01.7	2	1150	1000	1	0220	0060	0220	01.4	00.0	01.6	0150	0260	0150	1200	1200
71119	0	0040	0040	0060	1	00.0	00.2	00.3	1	1300	1300	1	0050	0030	0080	00.3	00.2	00.3	0100	0160	0100	1170	1200
71119	1	0055				01.4				2500	2500	2	0050	0020	0040	01.0	00.4	01.1	0140	0190	0130	1140	1140
71119	2												0030	0020	0050	00.6	00.3	00.9	0130	0180	0140	1130	1040
71119	3												0090	0060	0060	00.8	00.4	00.7	0160	0180	0160	1070	1080
71119	4	0120	0090	0125	1	03.3	02.0	03.0	2	1100	1100	1	0130	0060	0120	02.9	01.3	03.6	0140	0220	0140	1120	1080
71120	0	0220	0260	0260	1	00.8	00.0	01.0	1	0950	0950	1	0050	0090	0260	00.0	00.0	00.3	0050	0100	0110	0850	0900
71120	1	0310	0290	0375	2	02.6	00.3	02.7	2	1000	1050	1	0270	0160	0350	00.6	01.2	01.2	0110	0240	0120	0890	0920
71120	2												0360	0320	0390	00.9	00.7	01.9	0105	0080	0120	0880	0910
71120	3	0265	0615	0360	2	01.2	00.0	01.6	2	0900	0900	1	0300	0120	0340	00.5	00.0	01.5	0100	0150	0110	0840	0880
71121	0	0045	0090	0060	1	00.0	00.0	00.0	1				0260	0110	0160	00.0	00.0	00.0	0040	0080	0050	0710	0710
71121	1	0025	0030	0030	1	00.0	00.0	00.0	1	0700	0700	1	0080	0060	0100	00.0	00.0	00.0	0060	0130	0070	0710	0690
71121	2												0500	0200	0200	00.1	00.1	00.0	0070	0120	0080	0740	0720
71121	3												0240	0100	0120	00.1	00.0	00.0	0060	0130	0080	0800	0780
71121	4	0070	0045	0105	1	00.0	00.1	00.0	1	0800	0800	1	0130	0030	0080	00.0	00.0	00.0	0040	0090	0050	0780	0810
71122	0	0105	0090	0110	1	02.4	00.6	01.6	1	0900	0900	1	0220	0080	0230	03.4	00.8	03.3	0120	0250	0120	0870	0860
71122	1	0115	0075	0120	1	01.9	00.4	01.9	1	0900	0900	1	0170	0060	0120	02.7	00.5	02.4	0090	0450	0120	0820	0890
71122	2												0350	0100	0290	05.7	03.1	05.5	0080	0220	0090	0880	0930
71122	4	0080	0080	0105	1	01.4	01.0	01.5	1	1050	1050	1	0080	0050	0060	00.9	00.9	01.0	0070	0090	0100	0870	0940
71123	0	0065	0045	0055	1	00.0	00.0	00.0	1	0800	0800	1	0080	0020	0060	00.0	00.0	00.0	0060	0170	0070	0740	0740
71123	1	0070	0060	0080	1	00.0	00.0	00.0	1	0825	0875	1	0030	0020	0030	00.0	00.0	00.0	0080	0200	0090	0800	0780
71123	2												0770	0120	0660	06.4	00.1	06.9	0140	0470	0150	0690	0710
71123	3	0755	0135	0800	2	05.9	00.4	05.7	2	0700	0700	1	0680	0090	0530	05.7	00.0	05.6	0120	0440	0130	0670	0690

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPANO	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	DEQ S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	IDLE S	TEST RPM 1ST	TEST RPM 2ND	TEST S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
52001	0	0145	0045	0140	2	02.2	00.2	01.7	2	0800	0800	1	0170	0050	0210	03.1	00.0	02.5	0110	0440	0100	0810	0800
52001	M	0015	0015	0020	1	00.0	00.0	00.0	1	0800	0800	1	0060	0050	0060	00.0	00.0	00.0	0080	0500	0080	0710	0710
52001	1	0025	0045	0030	1	00.0	00.2	00.0	1	0850	0850	1	0030	0020	0020	00.0	00.0	00.0	0060	0280	0070	0730	0750
52001	2												0140	0020	0140	00.0	00.0	00.0	0050	0320	0060	0810	0830
52001	3												0100	0020	0150	01.5	00.0	00.8	0100	0600	0100	0870	0860
52001	4	0020	0025	0355	2	00.0	00.0	01.9	2	1600	1050	1	0170	0080	0120	05.0	01.3	03.7	0140	0460	0140	1060	1080
52002	0	0135	0040	0145	1	03.8	00.1	03.5	2	0700	0700	1	0170	0040	0160	02.3	00.0	02.8	0120	0500	0130	0780	0780
52002	M	0040	0040	0035	1	00.1	00.1	00.0	1	0800	0800	1	0330	0050	0180	00.0	00.0	00.0	0040	0440	0060	0560	0570
52002	1	0025	0030	0030	1	00.0	00.3	00.0	1	0800	0800	1	0090	0030	0080	00.0	00.2	00.0	0080	0400	0080	0670	0660
52002	2												0480	0060	0140	00.0	00.0	00.0	0040	0400	0050	0540	0560
52002	3												0190	0020	0100	00.0	00.0	00.0	0040	0570	0050	0570	0580
52002	4	0095	0045	0130	1	00.0	00.0	00.0	1	0700	0700	1	0090	0030	0080	00.0	00.0	00.0	0030	0380	0030	0540	0540
52003	0	0135	0060	0140	2	02.9	00.1	02.9	2	0850	0900	1	0220	0060	0180	02.4	00.0	02.4	0090	0140	0090	0710	0730
52003	M	0120	0040	0120	1	00.9	00.0	00.6	1	0700	0700	1	1780	0370	0550	00.3	00.3	00.0	0060	0160	0060	0560	0600
52003	1	0035	0025	0030	1	00.0	00.0	00.0	1	0700	0700	1	0080	0020	0040	00.0	00.0	00.0	0060	0120	0060	0750	0700
52003	R	0100	0040	0115	1	00.2	00.0	00.5	1	0800	0800	1	0100	0030	0060	00.0	00.0	00.0	0060	0150	0050	0720	0720
52003	C	0025	0015	0020	1	00.0	00.0	00.0	1	0700	0700	1	0090	0020	0050	00.0	00.0	00.0	0060	0140	0060	0700	0680
52003	2												0160	0040	0130	00.0	00.0	00.0	0070	0160	0070	0670	0690
52003	3												0060	0020	0020	00.0	00.0	00.0	0040	0170	0060	0670	0700
52003	4	0055	0035	0045	1	00.0	00.0	00.0	1	0650	0650	1	0080	0010	0040	00.0	00.0	00.0	0050	0110	0060	0700	0700
52004	0	1430	0230	1350	2	05.3	00.3	05.1	2	0400	0400	1	0750	0100	0310	01.7	00.2	02.1	0160	0050	0060	0430	0440
52004	M	0030	0065	0240	1	00.4	00.1	00.6	1	1550	0900	1	0040	0050	0240	00.6	00.2	00.5	0040	0060	0050	1200	0880
52004	1	0015	0030	0025	1	00.3	00.1	00.2	1	1500	1550	2	0040	0060	0030	00.5	00.2	00.5	0050	0050	0060	1500	1570
52004	2												0030	0030	0020	00.6	00.2	00.5	0060	0090	0080	1510	1500
52004	3												0030	0030	0100	00.5	00.1	00.3	0060	0080	0060	1440	0900
52004	4	0055	0030	0040	1	01.1	00.1	00.8	1	1050	1050	1	0040	0010	0040	01.1	00.1	01.1	0040	0120	0040	0940	0960
52005	0	0475	0155	0420	2	09.6	03.1	09.4	2	0800	0800	1	0240	0100	0250	05.2	02.8	05.4	0130	0180	0140	0850	0870
52005	M	0040	0025	0120	1	00.1	00.1	00.1	1	0900	0900	1	0060	0030	0050	00.1	00.1	00.1	0080	0130	0100	0860	0850
52005	1	0140	0125	0160	2	04.9	03.0	05.0	2	0975	0975	1	0150	0210	0210	05.0	03.1	05.2	0120	0190	0120	0990	1000
52005	2												0150	0130	0170	04.5	01.9	04.6	0120	0190	0120	0930	0960
52005	3												0170	0160	0130	05.2	02.9	05.0	0160	0220	0160	1070	1110
52005	4	0130	0155	0130	1	05.5	02.5	05.3	2	1100	1100	1	0090	0140	0110	04.7	03.2	04.8	0130	0200	0140	1120	1130
52006	0	0400	0220	0420	2	06.8	00.9	06.3	2	0800	0800	1	0450	0340	0480	05.0	00.8	06.1	0100	0210	0120	0670	0720
52006	M	0090	0045	0095	1	00.0	00.0	00.0	1	0800	0850	1	0280	0120	0290	00.1	00.6	00.0	0070	0180	0090	0820	0760
52006	1	0135	0065	0200	1	00.2	00.4	01.8	1	0800	0800	1	0140	0050	0160	00.0	00.2	00.0	0050	0140	0050	0740	0790
52006	2												0120	0180	0130	00.0	00.1	00.1	0060	0210	0070	0800	0820
52006	3												0210	0030	0140	00.0	00.1	00.4	0080	0210	0090	0730	0820
52006	4	0120	0090	0215	1	00.0	01.1	00.0	1	0700	0700	1	0210	0040	0140	00.0	00.7	00.0	0060	0180	0060	0700	0720
52007	0	1370	0290	1245	2	09.7	07.0	09.5	2	0300	0350	9	0580	0230	0570	09.2	07.4	09.3	0150	0200	0140	0480	0470
52007	M	0065	0075	0195	1	00.2	01.6	00.2	1	0800	0800	1	0140	0060	0130	00.9	00.6	00.9	0130	0480	0140	0690	0700
52007	1	0285	0170	0270	2	08.1	08.2	07.6	2	0500	0500	1	0270	0110	0240	06.3	03.7	06.4	0090	0180	0100	0540	0550
52007	R	0100	0040	0110	1	02.3	00.6	01.6	1	0850	0850	1	0120	0020	0110	02.6	00.2	02.5	0145	0330	0140	0780	0800
52007	C	0080	0045	0100	1	03.0	00.9	02.6	2	0800	0800	1	0120	0020	0110	01.9	00.2	02.1	0120	0340	0120	0830	0860
52007	2												0120	0020	0160	01.7	00.2	01.9	0140	0330	0150	0820	0830
52007	3												2970	0410	2970	01.3	00.6	01.5	0300	1000	0260	0930	0990
52008	0	0085	0025	0165	1	01.3	00.0	01.4	2	1100	1100	2	0090	0040	0100	00.7	00.0	01.3	0100	0130	0110	1020	1050
52008	M	0050	0030	0095	1	00.2	00.0	00.4	1	0925	0925	1	0040	0050	0040	00.0	00.0	00.0	0090	0110	0100	0860	0880
52008	1	0085	0045	0100	1	01.4	00.1	01.6	2	0950	1000	1	0070	0030	0100	00.3	00.0	00.5	0070	0290	0100	0870	0930
52008	2												0060	0040	0100	00.2	00.1	01.4	0100	0140	0130	0870	0950
52008	3												0040	0060	0090	00.2	00.0	01.0	0100	0080	0120	0900	0990
52008	4	0155	0095	0790	1	02.3	00.4	02.3	2	0900	0900	1	0110	0030	0100	01.9	00.2	01.9	0100	0120	0100	0960	0980

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	SE W	DEQ IDLE TEST HC 1ST	HC 2500	HC 2ND	S	CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HTS IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
52009	0	0065	0030	0055	1	02.2	00.2	01.9	2	0600	0600	1	0100	0060	0090	02.3	00.1	01.7	0060	0140	0080	0660	0670
52009	M	0050	0035	0075	1	00.4	00.1	00.6	1	0800	0750	1	0100	0030	0080	00.7	00.1	00.4	0060	0180	0070	0600	0600
52009	1	0030	0015	0050	1	00.9	00.1	00.6	1	0650	0650	1	0050	0020	0060	00.5	00.1	00.3	0040	0120	0050	0640	0640
52009	2												0050	0020	0050	00.3	00.1	00.3	0060	0150	0070	0610	0660
52009	3												0050	0020	0040	00.2	00.1	00.1	0070	0180	0080	0670	0690
52009	4	0055	0050	0110	1	02.6	01.8	02.0	2	0650	0650	1	0050	0030	0050	01.0	00.2	01.2	0060	0340	0080	0730	0740
52010	0	0330	0310	0345	2	00.0	00.0	00.1	1	0700	0700	1	0300	0040	0270	00.3	00.0	00.1	0070	0190	0080	0680	0700
52010	M	0035	0030	0030	1	00.0	00.3	00.0	1	0800	0800	1	0040	0030	0030	00.0	00.0	00.0	0070	0160	0100	0710	0770
52010	1	0230	0085	0280	2	02.3	01.0	01.1	2	0800	0800	1	0100	0050	0060	00.0	00.0	00.0	0100	0220	0100	0800	0770
52010	2												0510	0050	0300	00.0	00.0	00.0	0120	0370	0140	0830	0830
52010	3												0220	0060	0160	00.0	00.0	00.0	0120	0310	0080	0870	0720
52010	4	0105	0035	0165	1	00.0	00.0	00.0	1	0750	0750	1	0090	0080	0050	00.0	00.0	00.0	0140	0200	0120	0850	0880
52011	0	0435	0060	0410	2	07.4	00.0	07.5	2	0810	0810	1	0730	0230	0710	09.8	00.1	09.8	0140	0200	0140	0820	0820
52011	M	0130	0165	0110	1	00.0	00.0	00.0	1	1000	1050	1	0300	0160	0210	01.4	00.1	00.1	0170	0170	0150	1080	1080
52011	1	0200	0045	0265	1	01.5	00.1	00.8	1	1050	1100	1	0300	0100	0200	00.6	00.0	00.5	0130	0150	0120	1100	1090
52011	2												0560	0160	0360	00.6	00.3	00.7	0200	0160	0160	1050	1070
52011	3												0480	0250	0350	00.5	00.3	00.7	0220	0160	0200	1070	1080
52011	4	0255	0140	0315	2	01.0	00.0	00.5	1	1050	1050	1	0310	0170	0360	01.9	00.3	01.5	0190	0220	0170	1080	1080
52012	0	0075	0075	0085	1	02.1	00.4	02.8	2	1050	1050	1	0120	0040	0090	01.1	00.2	01.7	0060	0160	0060	0850	0900
52012	M	0035	0075	0040	1	00.2	00.1	00.1	1	1150	1150	1	0260	0060	0100	00.2	00.1	00.3	0080	0180	0090	0970	1070
52012	1	0175	0225	0185	1	01.7	00.2	01.8	1	1000	1000	1	0160	0050	0160	01.0	00.2	01.0	0080	0180	0090	0850	0870
52012	2												0190	0060	0160	01.2	00.2	01.5	0070	0170	0080	0840	0880
52012	3												0140	0040	0120	01.1	00.2	01.3	0080	0180	0110	0900	0890
52013	0	0060	0040	0070	1	02.0	00.2	01.8	2	0750	0750	1	0090	0040	0080	02.2	00.2	01.9	0070	0350	0080	0680	0700
52013	M	0060	0075	0045	1	00.5	00.1	00.3	1	0800	0800	1	0080	0050	0080	00.2	00.1	00.4	0070	0300	0080	0710	0740
52013	1	0035	0030	0045	1	00.7	00.4	00.9	1	0775	0850	1	0100	0040	0060	00.3	00.1	00.5	0055	0220	0065	0760	0780
52013	2												0090	0030	0060	00.6	00.3	00.5	0070	0220	0080	0770	0780
52013	3												0050	0020	0050	00.5	00.2	00.6	0060	0300	0060	0750	0770
52013	4	0115	0070	0060	1	00.6	00.4	00.4	1	0800	0800	1	0070	0020	0050	00.4	00.1	00.6	0040	0060	0060	0740	0790
52014	0	0130	0070	0180	2	04.7	00.1	04.8	2	1050	1050	1	0500	0090	0250	09.7	00.0	05.2	0110	0160	0040	0680	1030
52014	M	0040	0035	0060	1	00.0	00.0	00.0	1	0850	0850	1	0040	0020	0030	00.0	00.0	00.0	0090	0120	0090	0840	0850
52014	1	0025	0030	0025	1	00.0	00.0	00.0	1	1050	1050	1	0050	0030	0040	00.0	00.0	00.0	0110	0150	0120	1000	1020
52014	2												0050	0030	0020	00.0	00.0	00.0	0120	0170	0120	1040	1030
52014	3												0000	0000	0030	00.0	00.0	02.3				1010	1130
52015	0	0060	0045	0080	1	00.7	00.2	00.7	1	1200	1200	2	0140	0090	0140	01.1	00.3	01.0	0080	0220	0090	1350	1100
52015	M	0180	0065	0225	1	00.3	00.6	00.4	1	0850	0850	1	0200	0050	0120	01.3	00.3	00.4	0040	0180	0060	0570	0790
52015	1	0970	0710	1105	2	01.7	00.9	01.4	1	0850	0850	5	0350	0080	0330	00.5	00.3	00.5	0060	0220	0060	0770	0750
52016	0	0015	0025	0025	1	00.4	00.4	00.4	1	1350	1350	2	0030	0030	0020	00.7	00.5	00.6	0060	0140	0060	1260	1340
52016	M	0015	0020	0025	1	00.5	00.3	00.5	1	1000	1000	1	0030	0020	0020	00.9	00.3	00.7	0060	0180	0060	0830	0840
52016	1	0010	0015	0025	1	00.6	00.2	00.5	1	1100	1125	1	0030	0037	0030	00.8	00.4	00.7	0050	0210	0060	1040	1070
52016	2												0010	0020	0020	00.6	00.4	00.6	0060	0250	0070	0950	0960
52016	3												0050	0030	0050	00.9	00.3	00.8	0060	0190	0060	0910	0960
52016	4	0035	0035	0090	1	00.5	00.3	00.5	1	1000	1000	1	0090	0030	0040	00.3	00.3	00.3	0050	0220	0050	0880	0930
52017	0	0045	0040	0045	1	01.4	00.6	01.4	2	1000	1000	1	0070	0030	0050	02.0	00.2	01.4	0060	0260	0070	0750	0960
52018	0	0170	0090	0220	1	04.3	01.4	04.1	2	0900	0900	1	0270	0110	0230	04.3	00.5	03.4	0110	0240	0100	0800	0860
52018	M	0055	0040	0045	1	00.7	00.1	00.0	1	0900	0900	1	0050	0030	0050	00.0	00.1	00.0	0080	0180	0080	0830	0860
52018	1	0250	0070	0295	2	06.7	00.1	06.2	2	0750	0750	1	0250	0060	0260	04.9	00.2	05.2	0120	0260	0120	0760	0760
52018	2												0290	0050	0250	06.2	00.3	05.2	0120	0320	0130	0780	0820
52018	3												0250	0080	0240	03.8	00.4	03.8	0140	0360	0140	0780	0780
52018	4	0540	0170	0465	2	07.7	02.0	06.9	2	0725	0750	1	0490	0150	0520	06.7	02.5	06.7	0140	0300	0140	0630	0650

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DED HC 1ST	DED HC 2500	DED HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HOT HC 1ST	HOT HC 2500	HOT HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
52019	0	0240	0165	0265	1	04.9	02.4	05.3	2	0850	0850	1	0320	0080	0300	05.6	00.1	06.0	0140	0480	0140	0810	0830
52019	M	0185	0130	0225	1	00.0	00.4	00.0	1	0800	0800	1	0290	0050	0210	00.0	00.0	00.0	0080	0320	0080	0640	0630
52019	1	0170		0265	1	00.9		07.8	2				0250	0080	0290	07.8	00.9	07.7	0150	0350	0140	0900	0900
52019	R	0280	0430	0365	2	02.2	00.6	02.7	2	0850	0850	1	0300	0200	0330	01.1	00.4	01.2	0120	0620	0130	0800	0810
52019	C	0160	0205	0235	2	08.3	01.8	08.5	2	0800	0800	1	0230	0200	0320	08.4	00.4	08.6	0130	0680	0140	0810	0860
52019	2												0130	0050	0210	04.3	00.0	04.2	0160	0600	0150	0970	0940
52019	3												0170	0040	0140	03.9	00.0	03.4	0170	0680	0180	0980	1080
52019	4	0355	0105	0405	2	08.4	02.8	08.5	2	0975	1200	1	0250	0100	0280	07.8	01.1	07.8	0150	0800	0160	0940	1010
52020	0	0455	0180	0405	2	02.8	00.1	03.2	2	0800	0800	1	1820	0450	1650	06.8	00.0	06.9	0140	0180	0140	0540	0540
52020	M	0130	0035	0265	1	00.1	00.0	00.6	1	0900	0900	1	0380	0080	0360	00.0	00.0	00.7	0090	0140	0100	0610	0640
52020	1	0370	0190	0260	2	02.7	00.0	02.5	2	0600	0600	1	0420	0100	0390	01.5	00.0	02.0	0080	0130	0085	0600	0640
52020	2												1910	0250	1480	00.2	00.2	00.1	0080	0160	0090	0680	0660
52020	3												0990	0090	0990	00.2	00.0	00.2	0100	0130	0100	0700	0710
52021	0	0850	0210	0770	2	04.7	06.1	04.2	2	0750	0750	1	0880	0090	1240	03.2	00.0	04.1	0100	0320	0120	0790	0690
52051	0	0085	0035	0070	1	03.2	00.2	02.7	2	1110	1110	1	0040	0020	0040	01.5	00.2	01.4	0100	0160	0110	1120	1140
52052	0	0140	0190	0165	2	03.8	00.5	03.9	2	0800	0800	1	0100	0020	0100	02.1	00.0	02.2	0100	0170	0110	0800	0800
52052	M	0080	0030	0090	1	01.3	00.3	00.9	1	0820	0900	1	0080	0050	0060	00.5	00.3	00.5	0100	0180	0110	0750	0790
52052	1	0040	0050	0045	1	00.0	00.3	00.0	1	0850	0900	1	0020	0060	0020	00.0	00.0	00.0	0120	0200	0120	0840	0830
52052	2												0140	0030	0140	03.7	00.3	04.2	0140	0180	0140	0840	0850
52052	3												0130	0070	0140	03.8	00.7	04.3	0200	0220	0190	1070	1030
52053	0	0110	0115	0105	1	03.8	03.6	01.5	1	1150	1150	2	0100	0120	0070	01.0	01.2	00.4	0120	0240	0120	1060	1010
52053	M	0080	0105	0115	1	00.6	01.6	00.3	1	0900	0900	1	0080	0120	0080	00.0	01.0	00.0	0090	0360	0080	0830	0820
52053	1	0025	0030	0025	1	00.0	00.0	00.0	1	0900	0950	1	0020	0030	0020	00.0	00.0	00.0	0080	0320	0085	0840	0810
52053	2												0070	0030	0030	00.1	00.2	00.0	0100	0330	0100	0830	0820
52053	3												0050	0020	0030	00.0	00.0	00.0	0110	0450	0120	0830	0830
52053	4	0085	0100	0145	1	00.5	00.6	00.9	1	0900	0900	1	0030	0030	0020	00.0	00.1	00.0	0100	0340	0400	0870	0870
52054	0	0400	0135	0315	2	07.1	02.0	04.3	2	0900	0900	1	0320	0050	0250	02.5	00.0	02.9	0100	0170	0110	0790	0860
52054	M	0035	0075	0040	1	00.1	01.7	00.0	1	0825	0800	1	0120	0040	0080	00.0	00.1	00.0	0080	0140	0090	0700	0790
52054	1	0345	0110	0415	2	05.3	00.7	05.8	2	0900	0900	1	0350	0080	0410	04.5	00.8	04.9	0120	0170	0130	0870	0820
52054	R	0025	0020	0025	1	00.0	00.0	00.0	1	0850	0850	1	0030	0020	0020	00.0	00.0	00.0	0070	0160	0080	0750	0760
52054	C	0040	0025	0050	1	00.0	00.0	00.0	1	0800	0800	1	0090	0030	0060	00.0	00.0	00.0	0060	0160	0070	0790	0810
52054	2												0060	0020	0030	00.0	00.0	00.0	0080	0180	0090	0780	0840
52054	3												0020	0020	0020	00.0	00.0	00.0	0160	0200	0160	0840	0860
52054	4	0045	0045	0080	1	00.0	00.8	00.0	1	0850	0850	1	0180	0040	0050	00.0	00.9	00.0	0050	0150	0060	0750	0790
52055	0	0695	0195	0610	2	05.8	00.4	05.8	2	0800	0800	1	0170	0030	0190	00.5	00.0	00.9	0200	0840	0200	0850	0860
52056	0	0130	0040	0115	1	03.6	00.1	02.0	2	0675	0675	1	0140	0030	0160	01.2	00.5	00.0	0080	0360	0080	0620	0610
52056	M	0045	0015	0060	1	00.7	00.0	00.0	1	1300	0900	1	0020	0020	0020	00.0	00.0	00.3	0080	0300	0070	0800	0800
52056	1	0075	0030	0060	1	02.1	00.1	01.5	2	0900	0900	1	0100	0030	0030	02.1	00.2	00.0	0080	0210	0050	0830	0780
52056	2												0100	0030	0080	01.9	00.0	01.6	0020	0410	0120	0800	0780
52057	0	0135	0185	0145	1	04.9	01.6	03.8	2	0850	0850	1	0120	0050	0110	02.4	00.2	01.9	0140	0880	0140	0800	0790
52057	M	0070	0140	0125	1	02.0	00.1	00.1	1	0800	0800	1	0040	0020	0030	00.0	00.0	00.0	0120	0670	0120	0700	0700
52057	1	0025	0075	0015	1	00.0	00.0	00.0	1	0750	0750	1	0080	0060	0080	00.2	00.2	00.0	0120	0630	0120	0700	0720
52057	2												0130	0030	0130	02.8	00.0	03.2	0160	0720	0160	0740	0750
52057	3												0130	0050	0130	02.9	00.2	03.2	0210	1000	0220	0750	0760
52057	4	0215	0175	0235	2	06.1	01.1	05.0	2	0750	0750	1	0200	0060	0170	04.4	00.2	04.7	0160	0620	0160	0760	0770
52058	0	0275	0170	0325	2	01.0	02.1	00.9	1	0900	0900	1	0270	0130	0260	00.9	02.4	00.8	0130	0210	0130	0840	0790
52058	M	0170	0025	0195	1	00.2	00.0	00.2	1	0800	0800	1	0460	0200	0320	00.3	03.6	00.5	0120	0280	0110	0900	0990
52058	1	0245	0125	0405	2	00.2	01.6	00.4	1	0950	0950	3	0350	0160	0370	00.7	03.8	00.7	0150	0210	0140	0980	0990
52058	2												0350	0080	0510	02.6	01.2	04.5	0140	0230	0140	0950	0840
52058	3												0560	0140	0700	05.0	01.9	06.7	0190	0290	0200	0820	0770
52058	4	0400	0140	0560	2	04.1	01.4	05.9	2	0800	0700	1	0500	0130	0500	04.4	01.4	04.5	0130	0230	0140	0640	0600

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPANO	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
52059	0	0025	0040	0030	1	00.0	00.3	00.0	1	1300	1300	2	0100	0030	0140	00.0	00.1	00.0	0080	0130	0100	0950	0970
52059	M	0030	0025	0020	1	00.0	00.1	00.0	1	0850	0850	1	0120	0050	0060	00.1	00.1	00.0	0080	0200	0080	0810	0870
52059	1	0065	0045	0090	1	00.0	00.0	00.0	1	0700	0700	1	0070	0020	0030	00.0	00.1	00.0	0080	0160	0070	0840	0920
52059	2												0200	0110	1360	00.2	00.5	00.0	0130	0400	0120	0520	0550
52059	3												0260	0120	0240	00.1	02.1	00.0	0120	0220	0100	0700	0630
52059	4	0125	0100	0185	1	00.3	00.6	00.3	1	0650	0650	1	0090	0030	0080	00.1	00.1	00.5	0110	0260	0130	0540	0540
52060	0	0030	0045	0035	1	00.4	00.1	00.3	1	1200	1200	2	0180	0050	0120	00.2	00.1	00.1	0070	0200	0060	0790	0920
52060	M	0095	0075	0100	1	00.0	00.2	00.0	1	0600	0600	1	0210	0050	0140	00.2	00.1	00.2	0040	0160	0040	0770	0800
52060	1	0070	0055	0065	1	00.3	00.0	00.1	1	1050	1050	1	0060	0030	0040	00.2	00.2	00.1	0060	0150	0060	0970	0990
52060	2												0080	0030	0060	00.2	00.1	00.1	0040	0200	0060	0820	0870
52060	3												0050	0020	0040	00.1	00.1	00.1	0090	0210	0080	0980	1020
52060	4	0035	0025	0065	1	00.1	04.2	00.1	1	1075	1100	2	0030	0010	0030	00.1	00.1	00.1	0070	0150	0070	1060	1010
52061	0	0245	0040	0235	1	06.3	00.4	05.8	2	0800	0800	1	0330	0060	0100	06.5	00.3	02.5	0100	0160	0070	0820	0970
52061	M	0130	0040	0160	1	01.3	00.5	01.8	1	0875	0900	1	0080	0010	0090	00.6	00.3	00.6	0060	0140	0060	0900	0950
52061	1	0185	0035	0135	1	01.4	00.2	01.3	1	0950	0950	1	0200	0120	0270	00.8	00.5	00.8	0060	0130	0060	0800	0870
52061	2												0080	0020	0100	00.6	00.4	00.9	0060	0150	0070	0940	0920
52061	3												0180	0030	0160	01.9	00.4	01.8	0090	0180	0100	0770	0810
52062	0	0045	0015	0020	1	00.6	00.0	00.0	1	1150	1200	2	0020	0020	0020	00.0	00.0	00.0	0120	0400	0080	1080	1090
52062	M	0075	0045	0085	1	00.0	00.0	00.0	1	0650	0650	1	0090	0020	0050	00.0	00.0	00.0	0090	0260	0090	0690	0700
52062	1	0090	0040	0110	1	01.3	00.1	01.1	2	0750	0750	1	0090	0030	0080	00.0	00.0	00.0	0080	0370	0080	0650	0680
52063	0	0100	0050	0125	1	04.9	01.4	05.6	1	1100	1100	2	0140	0070	0130	05.2	01.2	04.9	0140	0230	0140	0960	0980
52063	M	0035	0020	0050	1	00.2	00.0	02.0	1	0900	1000	1	0060	0010	0020	00.5	00.0	00.0	0100	0310	0080	0780	0770
52063	1	0055	0025	0080	1	01.2	00.1	01.4	2	0900	0900	1	0090	0020	0060	01.6	00.3	01.1	0120	0300	0100	0880	0820
52063	2												0060	0010	0030	01.5	00.0	00.3	0120	0270	0080	0850	0840
52063	3												0050	0020	0060	00.5	00.0	00.5	0110	0240	0120	0890	0900
52063	4	0200	0120	0240	2	05.6	00.2	05.8	2	0600	0600	1	0190	0010	0210	05.1	00.0	05.8	0120	0200	0120	0820	0820
52064	0	0250	0085	0365	2	04.0	01.5	04.0	2	0850	0850	1	0310	0070	0370	03.7	01.1	04.1	0060	0100	0070	0840	0820
52064	M	0080	0050	0240	1	00.6	01.4	00.4	1	1075	1075	1	0250	0050	0250	00.3	01.0	00.2	0050	0120	0050	0980	0950
52064	1	0085	0060	0430	1	00.8	01.9	00.4	1	0900	0900	1	0130	0030	0150	00.4	00.9	00.4	0065	0150	0080	0910	0910
52064	2												0130	0020	0140	00.4	01.5	00.4	0060	0150	0060	0910	0910
52064	3												0130	0080	0140	00.6	03.2	00.7	0050	0130	0060	0910	0970
52064	4	1350	0310	1540	2	00.1	01.4	00.1	1	0950	0900	1	1730	0230	1530	00.2	01.0	00.2	0040	0180	0040	0910	0920
52065	0	0325	0200	0340	2	09.4	04.4	09.5	2	0600	0600	1	0310	0210	0330	09.0	04.2	09.0	0120	0220	0130	0690	0680
52065	M	0080	0065	0060	1	01.0	00.2	00.7	1	0900	0900	1	0040	0050	0070	00.1	00.4	00.4	0140	0540	0120	0870	0890
52065	1	0145	0045	0170	1	05.8	00.1	06.4	2	0800	0800	1	0190	0070	0140	03.1	01.0	03.5	0160	0300	0140	0800	0840
52065	R	0075	0040	0090	1	01.2	00.0	00.8	1	0850	0850	1	0020	0020	0060	00.0	00.0	00.4	0130	0440	0110	0800	0900
52065	C	0065	0055	0085	1	00.6	00.6	00.8	1	0800	0800	1	0060	0080	0050	00.1	01.7	00.0	0080	0600	0110	0670	0710
52065	2												0050	0030	0060	00.2	00.2	00.5	0140	0560	0160	0770	0800
52065	3												0220	0100	0210	04.9	00.1	04.5	0140	0600	0160	0760	0850
52065	4	0270	0200	0410	2	08.8	03.8	08.0	2	0850	0850	1	0200	0170	0260	06.6	03.2	07.5	0170	0420	0160	0810	0780
52066	0	1055	0945	0655	2	01.3	02.5	02.3	2	0900	0900	1	0570	1550	0770	00.9	00.3	00.0	0080	0170	0070	0800	0800
52066	M	0080	0105	0115	1	00.0	02.1	00.0	1	0825	0825	1	0430	0090	0360	00.0	00.7	00.0	0080	0180	0080	0850	0860
52066	1	0060	0100	0075	1	00.0	03.0	00.1	1	0900	1000	1	0380	0140	0430	00.0	03.1	00.0	0110	0200	0120	0900	0900
52066	2												0840	0120	0820	00.0	01.4	00.0	0110	0230	0110	0880	0890
52066	3												1750	1780	1620	00.2	00.6	00.1	0110	0300	0120	0840	0890
52066	4	0145	0195	0165	1	00.6	03.6	00.1	1	0900	0900	1	0380	0180	0420	00.2	03.3	00.2	0100	0230	0120	0990	0980
52067	0	0400	0070	0400	2	00.0	00.1	00.0	1	0850	0875	1	1170	0070	0940	00.1	00.1	00.1	0100	0180	0100	0780	0800
52067	M	0035	0025	0050	1	00.0	00.1	00.0	1	0900	0900	1	0120	0050	0050	01.6	00.2	00.1	0080	0170	0070	0850	0830
52067	1	0025	0020	0030	1	00.0	00.0	00.0	1	0900	0950	1	0050	0020	0030	00.8	00.1	00.0	0070	0250	0070	0890	0910
52067	2												0060	0020	0030	00.9	00.1	00.0	0080	0180	0070	0900	0900

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	S E C	DED IDLE TEST HC 1ST	HC 2500	HC 2ND	S	CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HTS IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
52068	0	0175	0075	0205	1	03.9	01.3	03.7	2	1000	1000	1	0200	0050	0190	02.6	00.0	02.6	0100	0160	0100	0960	0950
52068	M	0055	0025	0060	1	00.0	00.0	00.0	1	0900	0900	1	0120	0010	0110	00.0	00.0	00.0	0060	0210	0070	0850	0820
52068	1	0025	0020	0040	1	00.0	00.1	00.0	1	0850	0850	1	0150	0020	0090	00.0	00.0	00.0	0070	0250	0080	0810	0850
52069	0	0120	0080	0140	1	04.9	00.8	04.6	2	1175	1175	1	0170	0030	0170	03.9	00.2	04.2	0120	0360	0120	1140	1170
52069	M	0075	0050	0080	1	01.0	00.1	00.8	1	1100	1100	1	0050	0020	0060	00.0	00.0	00.1	0120	0360	0130	0920	1030
52069	1	0100	0050	0130	1	01.7	00.2	01.6	2	1175	1200	2	0100	0020	0100	01.1	00.0	01.3	0120	0440	0120	1160	1140
52069	2												0120	0030	0100	01.9	00.2	02.7	0160	0480	0170	1050	1260
52069	3												0070	0020	0110	00.8	00.0	02.1	0090	0400	0120	1120	1180
52069	4	0100	0045	0275	1	02.2	00.1	02.7	2	1200	1200	2	0110	0140	0390	01.2	00.0	01.8	0120	0100	0140	1050	1190
52070	0	0165	0160	0150	1	00.0	00.0	00.0	1	1200	1200	2	0060	0120	0720	00.0	00.0	00.0	0100	0320	0090	1170	1160
52070	M	0030	0020	0040	1	00.0	00.0	00.0	1	0900	0900	1	0070	0040	0090	00.1	00.2	00.2	0060	0250	0070	0850	0890
52070	1	0065	0035	0055	1	00.8	00.0	00.4	1	0950	0950	1	0030	0020	0040	00.1	00.0	00.4	0060	0300	0080	0900	0930
52070	2												0130	0060	0140	02.1	00.5	02.8	0120	0320	0130	0840	0880
52070	3												0180	0090	0180	05.1	01.4	05.1	0140	0290	0140	0840	0880
52070	4	0200	0150	0215	2	05.2	01.6	04.5	2	0850	0850	1	0190	0130	0170	06.2	02.1	05.5	0140	0280	0140	0790	0840
52071	0	0110	0080	0140	1	04.8	02.1	04.7	2	0700	0700	1	0170	0060	0160	04.2	00.4	04.7	0130	0310	0150	0670	0670
52071	M	0045	0050	0085	1	00.9	01.3	01.2	1	0800	0810	1	0060	0020	0060	00.5	00.2	00.6	0140	0220	0160	0680	0700
52071	1	0050	0040	0080	1	01.1	01.1	01.2	1	0750	0750	1	0080	0050	0090	00.8	00.7	00.8	0160	0480	0160	0730	0680
52071	2												0050	0050	0060	00.4	01.4	00.6	0120	0480	0140	0720	0750
52071	3												0080	0070	0120	00.6	02.3	03.7	0150	0450	0150	0730	0790
52071	4	0060	0095	0130	1	00.7	02.2	00.2	1	0750	0750	1	0060	0060	0070	00.5	01.8	00.7	0130	0390	0130	0730	0730
52072	0	0130	0065	0140	1	02.3	00.2	02.3	1	1800	1800	2	0180	0080	0170	02.2	00.4	02.1	0130	0170	0130	1700	1720
52072	M	0095	0030	0100	1	01.6	00.1	01.5	1	1200	1250	1	0130	0020	0110	00.9	00.0	01.0	0090	0130	0120	1060	1110
52072	1	0095	0035	0110	1	01.4	00.1	01.4	1	0900	0900	1	0070	0020	0080	00.5	00.1	00.5	0070	0140	0080	0840	0840
52072	2												0220	0080	0240	04.8	00.4	04.6	0120	0270	0130	0840	0880
52072	3												0250	0070	0210	05.4	00.3	05.5	0130	0220	0140	0880	0900
52072	4	0270	0095	0275	1	06.1	00.7	06.0	2	0900	0900	1	0240	0050	0230	05.4	00.4	05.8	0130	0240	0140	0880	0880
52101	0	0145	0155	0215	1	04.0	02.0	03.6	2	0850	0850	1	0130	0050	0120	01.6	00.2	01.8	0120	0460	0120	0890	0900
52101	M	0045	0055	0035	1	00.0	00.0	00.0	1	0850	0850	1	0050	0060	0050	00.0	00.2	00.0	0080	0320	0070	0800	0800
52101	1	0165	0055	0120	2	01.7	00.5	01.7	2	0800	0800	1	0210	0070	0220	01.9	00.3	00.9	0100	0420	0090	0730	0730
52101	M	0060	0035	0060	1	00.0	00.0	00.0	1	0850	0850	1	0060	0200	0050	00.0	00.3	00.0	0080	0460	0080	0920	0900
52101	C	0085	0090	0095	1	01.3	01.2	01.2	2	0950	0950	1	0110	0120	0120	00.8	02.2	00.9	0110	0400	0110	0960	0980
52101	2												0030	0020	0040	00.0	00.2	00.0	0100	0490	0100	0960	0960
52101	3												0050	0060	0030	00.1	00.7	00.0	0140	0730	0140	0940	0970
52101	4	0105	0175	0115	1	00.6	03.6	00.7	1	1050	1050	1	0080	0160	0080	00.6	04.5	00.6	0100	0220	0100	1060	1040
52102	0	0035	0040	0045	1	01.5	00.5	01.2	2	0950	0950	1	0090	0050	0080	01.1	00.4	00.9	0060	0170	0070	0890	0950
52102	M	0070	0055	0070	1	01.0	00.5	01.0	1	0900	0900	1	0100	0040	0100	01.7	00.4	01.7	0050	0180	0060	0850	0870
52102	1	0115	0065	0120	1	02.1	00.8	02.1	2	0900	0900	1	0140	0060	0120	01.7	00.7	01.8	0070	0130	0070	0870	0880
52102	2												0160	0060	0130	02.2	00.9	02.1	0080	0100	0080	0840	0900
52102	3												0140	0030	0120	02.5	00.6	02.4	0160	0230	0160	0880	0910
52102	4	0095	0045	0095	1	01.9	00.6	01.2	1	0950	0950	1	0140	0060	0140	02.1	00.5	02.1	0060	0110	0070	0900	0870
52103	0	0095	0085	0110	1	04.2	03.2	04.0	2	0900	0900	1	0200	0090	0150	06.6	00.9	05.0	0120	0500	0120	0850	0900
52103	M	0090	0045	0040	1	01.0	00.0	00.0	1	0700	0700	1	0060	0020	0020	00.0	00.0	00.0	0060	0280	0090	0710	0730
52103	1	0075	0035	0080	1	01.7	00.7	02.5	2	0860	0800	1	0050	0010	0020	00.4	00.0	00.0	0080	0260	0060	0760	0750
52103	2												0100	0010	0060	02.1	00.0	00.7	0120	0320	0110	0840	0820
52103	3												0020	0010	0060	00.0	00.0	01.1	0140	0500	0180	0850	0860
52103	4	0105	0045	0115	1	03.2	00.4	03.9	2	1150	1150	2	0100	0030	0110	02.8	00.5	03.3	0170	0500	0170	1160	1090
52104	0	0435	0155	0515	2	10.0	01.4	10.0	2	0850	0850	1	0620	0160	0390	09.9	01.9	09.4	0130	0250	0130	1020	1090
52104	M	0030	0060	0060	1	00.0	00.8	00.0	1	1050	1050	1	0060	0040	0090	00.0	00.2	00.0	0110	0240	0100	1000	1030
52104	1	0030	0040	0040	1	00.0	00.1	00.1	1	1100	1150	1	0070	0030	0070	00.0	00.3	00.0	0100	0180	0100	1100	1120
52104	2												0050	0050	0050	00.1	00.4	00.0	0100	0300	0110	1030	1020
52104	3												0030	0020	0030	00.0	00.0	00.0	0080	0140	0080	1020	1010
52104	4	0025	0070	0040	1	00.0	00.5	00.0	1	1050	1050	1	0020	0030	0010	00.0	00.4	00.0	0060	0270	0080	1080	1080

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	SE	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	IDLE TEST NOX 1ST	IDLE TEST NOX 2500	IDLE TEST NOX 2ND	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND
52105	0	0020	0020	0025	1	00.0	00.0	00.0	1	1150	1200	2	0060	0040	0060	00.1	00.0	00.0	0140	0300	0130	0980	1030
52105	M	0015	0025	0020	1	00.0	00.5	00.0	1	0650	0650	1	0070	0020	0030	00.0	00.0	00.0	0100	0270	0100	0900	0930
52105	1	0015	0015	0015	1	00.0	00.0	00.0	1	1050	1075	1	0060	0030	0040	00.1	00.1	00.0	0120	0260	0120	0980	1000
52105	2												0020	0020	0020	00.0	00.1	00.1	0100	0300	0120	1100	1110
52105	3												0040	0020	0050	00.0	00.0	00.0	0160	0800	0210	1050	1110
52106	0	0300	0170	0300	2	04.9	00.4	04.4	2	0800	0800	1	0540	0140	0300	05.9	00.4	02.9	0030	0100	0020	1080	1100
52106	M	0050	0020	0040	1	00.0	00.0	00.0	1	0750	0750	1	0120	0040	0110	00.0	00.0	00.0	0080	0260	0080	0700	0700
52106	1	0045	0055	0030	1	00.3	01.1	00.0	1	0800	0850	1	0040	0040	0030	00.0	00.0	00.0	0090	0150	0080	1050	1040
52107	0	0090	0090	0090	1	02.4	01.1	02.3	2	0950	0950	1	0220	0030	0120	01.0	00.1	00.9	0050	0350	0140	0900	0930
52108	0	0225	0110	0250	1	03.9	01.0	03.7	2	0800	0800	1	0340	0080	0330	03.5	00.6	04.5	0130	0720	0140	0730	0710
52108	M	0060	0025	0065	1	00.5	00.1	00.4	1	0800	0800	1	0090	0020	0070	00.2	00.1	00.3	0140	0160	0150	0750	0760
52108	1	0075	0055	0080	1	01.0	00.2	00.6	1	0750	0750	1	0160	0050	0130	00.3	00.2	00.4	0140	0310	0140	0760	0770
52108	2												0120	0010	0100	01.5	00.1	02.1	0120	0170	0130	0720	0740
52108	3												0090	0030	0140	02.3	00.3	03.4	0190	0430	0180	0960	0740
52108	4	0070	0050	0105	1	01.9	00.6	01.6	1	0825	0825	1	0080	0020	0090	01.5	00.8	01.6	0110	0270	0120	0780	0790
52109	0	0340	0195	0355	2	01.5	01.9	01.8	2	0900	0900	1	0290	0090	0370	00.1	01.6	00.3	0120	0190	0100	0770	0830
52109	M	0060	0020	0060	1	00.0	00.2	00.0	1	0650	0700	1	0050	0020	0030	00.0	00.7	00.0	0070	0085	0100	0740	0780
52109	1	0265	0045	0230	2	00.0	00.4	00.0	1	0700	0700	1	0290	0070	0200	00.0	00.0	00.0	0020	0140	0030	0610	0630
52109	2												0270	0040	0200	00.0	00.4	00.0	0090	0200	0100	0860	0800
52109	4	0435	0130	0460	2	01.5	01.0	02.1	2	0825	0825	1	0690	0120	0550	01.6	01.2	02.9	0100	0170	0110	0740	0780
52110	0	0420	0310	0470	2	08.8	05.8	08.4	2	0875	0875	1	0520	0230	0490	08.9	03.5	08.5	0120	0250	0120	1010	1030
52110	M	0110	0055	0110	1	00.1	01.2	00.0	1	0750	0750	1	0080	0050	0070	00.0	00.6	00.0	0080	0180	0080	0710	0680
52110	1	0090	0080	0090	1	01.7	02.1	01.7	1	1050	1050	2	0150	0055	0130	02.0	00.5	01.8	0100	0200	0100	1000	1020
52110	2												0090	0030	0130	00.8	00.3	01.0	0080	0140	0110	0970	1020
52110	3												0150	0100	0160	01.8	01.9	01.8	0140	0240	0140	0990	1020
52110	4	0105	0120	0150	1	00.8	00.4	00.9	1	0975	1000	1	0100	0060	0120	00.4	00.6	00.7	0110	0200	0100	0960	0960
52111	0	0150	0150	0170	2	06.0	03.4	06.1	2	0750	0750	1	0190	0070	0230	06.3	00.2	06.3	0100	0220	0110	0750	0750
52111	M	0020	0015	0020	1	00.1	00.0	00.0	1	0850	0850	1	0060	0060	0020	00.3	00.3	00.0	0100	0240	0080	0850	0850
52111	1	0125	0055	0140	1	03.6	00.2	04.0	2	1050	1050	1	0140	0110	0120	03.6	00.9	02.3	0130	0280	0120	0980	0950
52111	2												0080	0050	0090	01.5	00.2	01.4	0120	0310	0120	1020	1000
52111	3												0090	0030	0120	02.1	00.0	02.4	0100	0290	0110	0850	0880
52111	4	0095	0090	0125	1	02.9	00.1	02.7	2	0950	0950	1	0100	0040	0110	02.8	00.0	02.6	0120	0320	0120	0860	0870
52112	0	0325	0090	0360	2	00.0	00.0	00.0	1	0750	0825	1	2080	0940	1240	00.5	00.4	00.2	0090	0390	0100	0800	0800
52112	M	0030	0020	0035	1	00.0	00.1	00.0	1	1025	1025	1	0120	0030	0050	00.2	00.0	00.0	0110	0140	0100	0910	0780
52112	1	0020	0030	0025	1	00.0	00.1	00.0	1	0800	0850	1	0060	0030	0020	00.2	00.6	00.0	0090	0300	0090	0740	0780
52112	2												0030	0010	0020	00.1	00.0	00.0	0110	0290	0110	0830	0770
52112	4	0025	0030	0045	1	00.0	00.1	00.1	1	0950	0950	1	0040	0010	0030	00.0	00.0	00.0	0065	0140	0070	0870	0810
62000	0	0450	0345	0440	2	02.9	01.0	03.0	2	0800	0800	1	0630	0380	0470	02.2	00.3	01.6	0110	0220	0120	0800	0830
62000	M	0050	0070	0070	1	00.1	00.0	00.1	1	0950	0950	1	0090	0080	0120	00.0	00.0	00.1	0120	0170	0130	0950	0970
62000	1	0070	0080	0075	1	00.0	00.0	00.0	1	1050	1075	1	0140	0060	0110	00.0	00.1	00.0	0100	0160	0110	0980	0970
62000	2												0110	0080	0100	00.4	01.0	00.3	0080	0140	0090	0800	0780
62000	3												0080	0080	0050	00.8	00.1	00.2	0140	0200	0120	0980	0990
62000	4	0205	0165	0185	1	00.0	00.0	00.0	1	0900	0900	1	0120	0090	0080	00.0	00.0	00.0	0090	0140	0090	0850	0860
62001	0	0045	0025	0045	1	00.0	00.0	00.0	1	1150	1200	2	0170	0070	0130	00.1	00.4	00.0	0040	0140	0050	0980	1040
62001	M	0050	0020	0050	1	00.0	00.0	00.0	1	0900	0900	1	0080	0020	0100	00.0	00.0	00.0	0060	0210	0080	0780	0790
62001	1	0045	0025	0050	1	00.0	00.0	00.0	1	0800	0800	1	0130	0030	0160	00.0	00.0	00.0	0050	0140	0050	0810	0750
62001	2												0080	0020	0030	00.0	00.0	00.0	0050	0140	0050	0700	0740
62001	3												0100	0030	0050	00.0	00.0	00.0				0790	0810
62001	4	0060	0020	0065	1	00.0	00.0	00.0	1	0800	0800	1	0200	0020	0170	00.0	00.0	00.0	0050	0120	0050	0680	0740

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPANO	SEQ	DED IDLE TEST HC 1ST	HC 2500	HC 2ND	S	CO 1ST	CO 2500	CO 2ND	S	RPM 1ST	RPM 2ND	S	HTS IDLE TEST HC 1ST	HC 2500	HC 2ND	CO 1ST	CO 2500	CO 2ND	NOX 1ST	NOX 2500	NOX 2ND	RPM 1ST	RPM 2ND
62002	0	0280	0220	0385	2	04.5	01.0	03.7	2	1000	1000	1	0310	0160	0310	03.1	01.9	02.4	0110	0300	0100	0900	0900
62002	M	0190	0115	0360	1	01.2	00.4	00.5	1	0950	0950	1	0410	0100	0350	00.0	01.0	00.0	0080	0350	0080	0810	0850
62002	1	0200	0220	0260	2	01.9	01.5	01.4	2	1000	1000	1	0270	0090	0340	00.0	01.4	00.0	0010	0050	0010	0830	0850
62002	2												0830	0190	0660	06.0	02.3	00.7	0080	0240	0100	0830	0910
62002	3												0350	0140	0360	00.3	02.0	00.2	0080	0260	0070	0860	0850
62002	4	0285	0285	0360	2	03.5	02.1	03.4	2	0500	0550	1	0530	0210	0700	02.0	03.2	01.3	0100	0210	0100	0860	0820
62003	0	0290	0180	0310	2	03.2	01.0	02.3	2	0850	0850	1	0270	0160	0230	01.9	01.2	01.5	0140	0360	0160	0800	0800
62003	M	0080	0065	0100	1	01.0	01.2	00.9	1				0070	0050	0050	00.2	00.4	00.1	0150	0580	0160	0700	0710
62003	1	0110	0050	0105	1	00.7	00.2	00.1	1	0600	0600	1	0080	0060	0050	00.4	00.6	00.0	0140	0960	0160	0960	1000
62003	2												0050	0050	0040	00.2	00.2	00.0	0160	1050	0170	0940	0950
62003	3												0100	0080	0080	00.6	00.2	00.0				0890	0950
62003	4	0045	0035	0045	1	00.0	00.1	00.0	1	1000	1000	1	0050	0050	0060	00.2	00.2	00.0	0190	1100	0190	1010	0980
62101	0	0360	0190	0370	2	04.6	01.7	03.7	2	1000	1000	1	0420	0130	0370	03.7	00.5	03.1	0120	0240	0120	0950	1000
62101	M	0215	0080	0040	1	00.7	00.2	00.0	1	0900	0900	1	0150	0040	0100	00.1	00.0	00.4	0130	0230	0120	0910	0900
62101	1	0060	0035	0060	1	00.2	00.1	00.1	1	0900	0900	1	0040	0020	0040	00.0	00.0	00.0	0090	0240	0080	0860	0890
62101	2												0400	0070	0300	00.8	00.2	00.6	0100	0200	0100	0900	0890
62101	3												0100	0020	0110	00.0	00.1	00.1	0150	0330	0140	0980	0970
62101	4	0065	0025	0070	1	00.0	00.0	00.0	1	1000	0950	1	0230	0040	0170	00.4	00.1	00.1	0100	0220	0120	0980	0970
62102	0	0325	0160	0390	2	04.6	01.1	04.7	2	0850	0850	1	0430	0300	0420	04.2	02.5	04.2	0120	0160	0120	0880	0890
62102	M	0040	0105	0060	1	00.1	00.9	00.1	1	0825	0850	1	0030	0040	0030	00.1	01.4	00.1	0080	0100	0080	0840	0870
62102	1	0035	0180	0075	1	00.1	00.2	00.1	1	0800	0850	1	0050	0050	0050	00.1	00.4	00.1	0110	0140	0100	0770	0790
62102	2												0130	0030	0120	03.3	01.1	02.9	0020	0090	0020	0970	1050
62102	3												0100	0030	0100	02.3	00.5	02.5	0190	0170	0200	1010	1060
62102	4	0140	0280	0210	2	04.5	00.5	04.3	2	0900	0900	1	0090	0050	0100	02.5	00.5	02.6	0120	0140	0120	0910	1060
62103	0	0175	0075	0190	1	02.8	00.1	01.9	2	1075	1075	1	0170	0100	0170	01.4	00.3	00.5	0060	0120	0130	1020	1030
62103	M	0045	0035	0090	1	00.1	00.0	00.0	1	0900	0900	1	0170	0080	0150	00.2	00.0	00.0	0100	0170	0090	0870	0920
62103	1	0025	0050	0085	1	00.0	00.2	00.0	1	1300	1250	2	0100	0080	0100	00.1	00.1	00.0	0100	0200	0100	1110	1200
62103	2												0100	0070	0060	00.1	00.4	00.0	0120	0180	0120	1020	1030
62103	3												0060	0030	0060	00.0	00.0	00.0	0140	0170	0150	1120	1180
62103	4	0075	0065	0070	1	00.0	00.0	00.0	1	0850	0850	1	0130	0050	0130	00.0	00.0	00.0	0090	0190	0110	0830	0810
62104	0	0320	0145	0260	2	00.0	00.0	00.0	1	0725	0800	1	0480	0060	0390	00.0	00.0	00.0	0050	0160	0050	0760	0740
62104	M	0115	0130	0095	1	00.0	00.0	00.0	1	0800	0800	1	0090	0080	0070	00.0	00.0	00.0	0100	0160	0100	0900	0910
62104	1	0040	0135	0060	1	00.7	00.1	00.0	1	0800	0800	1	0080	0060	0060	00.0	00.0	00.0	0080	0160	0100	0810	0880
62104	2												0060	0090	0050	00.0	00.0	00.0	0070	0160	0080	0790	0810
62104	3												0050	0070	0270	00.0	00.0	02.3	0080	0140	0100	0850	0830
62104	4	0055	0135	0060	1	00.0	00.0	00.0	1	0800	0800	1	0070	0090	0080	00.0	00.0	00.0	0050	0180	0100	0780	0890
62105	0	0185	0095	0180	1	03.6	00.1	03.4	2	0750	0700	1	0230	0120	0230	03.8	00.2	03.3	0100	0200	0100	0770	0740
62105	M	0125	0130	0115	1	02.0	00.1	00.1	1	0700	0700	1	0100	0070	0060	00.0	00.0	00.0	0095	0300	0080	0660	0670
62105	1	0100	0135	0135	1	00.0	00.0	00.0	1	0650	0650	1	0120	0060	0130	00.0	00.2	00.0	0100	0270	0080	0690	0650
62105	2												0130	0080	0090	00.0	00.0	00.1	0080	0300	0090	0680	0680
62105	3												0380	0190	0400	06.6	00.4	06.7	0130	0330	0130	0650	0620
62105	4	0135	0155	0275	1	03.2	00.8	05.2	2	1050	1050	1	0230	0040	0250	05.9	00.0	05.8	0080	0810	0080	0700	0680
72000	0	0260	0120	0290	2	06.7	02.1	06.5	2	0850	0850	1	0260	0100	0300	06.6	02.6	06.8	0090	0170	0100	0840	0880
72000	M	0230	0055	0260	1	00.0	00.0	00.0	1	0900	0900	1	0570	0060	0490	00.1	00.0	00.0	0060	0200	0070	0920	0930
72000	1	0070	0025	0065	1	00.0	00.0	00.0	1	0950	0950	1	0090	0050	0080	00.9	00.4	00.6	0080	0190	0080	0940	0930
72000	2												0990	0100	0500	00.4	00.0	00.0	0090	0190	0060	0920	0920
72000	3												0090	0020	0150	00.0	00.0	00.0	0060	0200	0060	0940	0920
72000	4	0095	0065	0080	1	00.4	00.2	00.4	1	0950	0950	1	0150	0030	0100	00.0	00.0	00.0	0080	0160	0070	0940	0930
72001	0	0150	0075	0260	2	03.3	01.0	03.2	2	0800	0800	1	0120	0070	0100	00.2	00.4	00.2	0100	0180	0110	0770	0820
72001	M	0045	0200	0520	1	00.0	00.0	00.0	1	1000	1000	1	0230	0050	0080	00.0	00.0	00.0	0040	0350	0080	0670	0790
72001	1	0040	0085	0040	1	00.1	02.4	00.0	1	1000	1000	1	0060	0160	0090	00.3	00.3	00.0	0080	0220	0120	0840	0940
72001	2												0100	0030	0050	00.0	00.0	00.0	0100	0420	0090	0840	0830
72001	3												0090	0120	0080	00.0	00.7	00.0	0060	0570	0080	0800	0800
72001	4	0050	0090	0080	1	00.1	02.1	00.1	1	1050	1050	1	0120	0100	0050	00.1	00.9	00.0	0080	0380	0060	0870	0860

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPANO	S E Q	DED HC 1ST	DED HC 2500	DED HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
72002	0	1230	0520	1305	2	06.9	02.0	07.0	2	0650	0650	1	1140	0310	1090	06.2	00.7	05.8	0110	1000	0120	0550	0560
72002	M	0130	0080	0145	1	00.0	00.0	00.0	1	0800	0800	1	0170	0050	0090	00.0	00.0	00.0	0150	0840	0160	0840	0770
72002	1	0105	0095	0130	1	00.0	01.9	00.0	1	0850	0850	1	0240	0150	0170	00.0	01.7	00.0	0130	0430	0150	0880	0800
72002	2												0810	0160	0830	05.8	01.0	05.9	0140	0430	0140	0780	0780
72002	3												0640	0090	0550	03.7	00.4	03.0	0120	0410	0120	0720	0760
72002	4	0945	0460	1000	2	02.1	00.6	02.4	2	0700	0700	1	1040	0250	0860	02.3	00.6	01.9	0120	0760	0110	0840	0820
72003	0	0200	0155	0195	1	03.5	01.5	03.3	2	1150	1150	1	0140	0080	0160	01.8	00.6	02.5	0110	0180	0110	1190	1130
72003	M	0135	0085	0140	1	01.5	00.3	01.5	1	0850	0850	1	0160	0080	0190	01.2	00.3	01.4	0100	0180	0100	0830	0870
72004	0	1220	0245	1535	2	08.5	00.8	09.0	2	0700	0700	1	0650	0060	0590	03.1	00.0	03.9	0100	0200	0110	0800	0830
72004	M	0050	0035	0065	1	00.0	00.0	00.0	1	0700	0700	1	0130	0090	0090	00.0	00.0	00.0	0040	0190	0060	0550	0590
72004	1	0055	0070	0055	1	00.0	00.0	00.0	1	0700	0700	1	0190	0060	0130	00.0	00.0	00.0	0060	0140	0070	0540	0590
72004	R	0040	0015	0045	1	00.0	00.0	00.0	1	0800	0800	1	0100	0060	0090	00.0	00.0	00.0	0110	0170	0120	0810	0820
72004	C	0055	0040	0060	1	00.0	00.0	00.0	1	1000	1000	1	0100	0040	0080	00.0	00.0	00.0	0100	0170	0110	0870	0900
72004	2												0210	0080	0160	00.0	00.0	00.0	0100	0170	0120	0760	0810
72004	3												0160	0090	0150	00.0	00.0	00.0	0140	0200	0140	0760	0850
72004	4	0145	0035	0105	1	00.0	00.0	00.0	1	0850	0950	1	0130	0050	0060	00.0	00.0	00.0	0110	0150	0070	0860	0870
72005	0	0190	0130	0180	1	03.1	01.2	03.4	2	0900	0900	1	0200	0140	0270	01.1	01.1	01.6	0120	0160	0100	0840	0830
72005	M	0035	0130	0035	1	00.0	01.0	00.0	1	0950	0950	1	0040	0100	0050	00.0	01.4	00.0	0150	0170	0140	1040	0900
72005	1	0290	0135	0365	2	09.1	03.7	09.0	2	0650	0650	1	0300	0210	0300	08.2	05.1	07.6	0120	0140	0130	1070	1070
72005	2												0180	0150	0170	03.3	02.8	03.6	0140	0160	0140	0760	0780
72005	3												0200	0130	0200	04.3	01.9	04.5	0160	0170	0150	0790	0780
72005	4	0360	0165	0535	2	06.7	02.5	07.7	2	0500	0500	1	0410	0210	0370	05.8	01.6	05.7	0140	0160	0130	0910	0880
72006	0	1055	0770	1230	2	09.2	02.0	09.2	2	0950	0950	1	1140	0690	1250	07.5	01.0	08.2	0120	0360	0120	1000	1000
72006	M	0060	0070	0080	1	00.0	00.0	00.0	1	0800	0800	1	0120	0050	0050	00.0	00.0	00.0	0070	0110	0150	1040	1020
72006	1	0585	0330	0660	2	05.4	01.8	05.0	2	1200	1200	2	0730	0230	0670	04.7	00.2	04.7	0160	0200	0160	1160	1170
72006	R	0055	0085	0070	1	00.0	00.1	00.0	1	0900	0950	1	0120	0060	0070	00.0	00.0	00.0	0140	0190	0080	0900	0910
72006	C	0435	0230	0440	2	00.9	02.1	01.2	1	0950	0950	1	0320	0200	0630	00.2	01.8	00.8	0110	0210	0120	0890	0900
72006	2												0240	0040	0330	00.3	00.1	00.6	0080	0120	0090	0910	0940
72006	3												0380	0170	0430	00.5	00.6	00.8	0130	0260	0120	0880	0960
72006	4	0045	0065	0060	1	00.0	00.1	00.0	1	0800	0800	1	0100	0230	0130	00.0	00.6	00.0	0150	0240	0080	0930	0950
72007	0	0285	0270	0325	2	01.9	04.6	02.1	2	0900	0900	1	0310	0300	0380	01.0	04.8	01.2	0120	0420	0120	0800	0860
72007	M	0090	0315	0110	1	00.0	04.5	00.1	1	0800	0800	1	0940	0540	0520	00.2	04.9	00.0	0160	0460	0140	0630	0660
72007	1	0290	0235	0350	2	01.6	05.7	01.6	2	0875	0900	1	0090	0300	0100	00.0	06.9	00.0	0110	0240	0100	0820	0830
72007	2												0510	0280	0520	00.9	07.0	01.2	0090	0260	0100	0820	0870
72007	3												0150	0240	0190	00.0	06.3	00.2	0050	0310	0060	0780	0820
72007	4	0340	0395	0430	2	01.5	06.6	02.1	2	0950	0950	1	0450	0300	0330	00.9	06.3	01.0	0120	0340	0120	0870	0880
72008	0	0390	0150	0455	2	08.7	01.7	08.8	2	0850	0850	1	0360	0080	0240	08.7	00.1	05.6	0100	0240	0120	0890	0890
72008	M	0090	0060	0090	1	00.4	01.1	00.4	1	1000	1000	1	0300	0060	0150	00.2	00.2	00.2	0110	0200	0120	0800	0930
72008	1	0095	0070	0095	1	00.3	00.9	00.3	1	0800	0800	1	0350	0140	0460	00.2	01.6	00.3	0070	0170	0070	0820	0830
72008	2												0050	0020	0050	00.4	00.4	00.4	0100	0220	0120	0920	0950
72008	3												0080	0010	0060	00.3	00.0	00.5	0110	0230	0120	0840	0900
72008	4	0340	0120	0335	2	07.5	01.6	04.5	2	0950	0950	1	0170	0060	0180	03.6	00.9	03.7	0130	0260	0130	0930	0930
72009	0	0380	0200	0400	2	01.8	00.1	01.9	2	0800	0800	1	0650	0120	0430	00.4	00.1	00.3	0060	0160	0080	0710	0720
72009	M	0025	0020	0050	1	00.2	00.0	00.0	1	1150	1150	1	0170	0020	0180	00.0	00.0	00.0	0080	0200	0080	0730	0790
72009	1	0230	0065	0210	1	00.0	00.0	00.0	1	0700	0700	1	0200	0020	0140	00.0	00.0	00.0	0040	0230	0030	0660	0630
72009	2												0230	0020	0170	00.0	00.0	00.0	0070	0180	0060	0870	0900
72009	3												0170	0020	0160	00.0	00.0	00.0				0690	0710
72009	4	0130	0060	0170	1	00.0	00.0	00.0	1	0600	0600	1	0170	0020	0120	00.0	00.0	00.0	0060	0320	0060	0660	0710
72010	0	0175	0060	0175	2	02.7	00.0	02.6	2	1100	1100	2	0270	0050	0200	03.9	00.0	02.7	0110	0560	0120	0920	1030
72010	M	0015	0015	0010	1	00.0	00.0	00.0	1	1000	1000	1	0030	0020	0020	00.0	00.0	00.0	0120	0330	0130	0950	0960
72010	1	0035	0025	0030	1	00.0	00.0	00.0	1	1000	1000	1	0050	0020	0040	00.0	00.0	00.0	0100	0280	0100	1120	0920
72010	2												0040	0030	0060	00.0	00.0	00.0	0100	0350	0100	1180	0940
72010	3												0050	0020	0050	00.0	00.0	00.0	0120	0460	0140	0870	0920
72010	4	0030	0105	0090	1	00.0	01.8	00.0	1	1000	1000	1	0040	0010	0040	00.0	00.0	00.0	0130	0370	0140	0930	0940

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	SEQ	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	S	IDLE TEST CO 1ST	IDLE TEST CO 2500	IDLE TEST CO 2ND	S	IDLE TEST RPM 1ST	IDLE TEST RPM 2ND	S	HOT IDLE HC 1ST	HOT IDLE HC 2500	HOT IDLE HC 2ND	HOT IDLE CO 1ST	HOT IDLE CO 2500	HOT IDLE CO 2ND	HOT IDLE TEST NOX 1ST	HOT IDLE TEST NOX 2500	HOT IDLE TEST NOX 2ND	HOT IDLE TEST RPM 1ST	HOT IDLE TEST RPM 2ND
72011	0	0100	0065	0090	1	03.4	01.0	03.3	2	1050	1050	1	0080	0050	0080	02.5	00.9	02.9	0140	0210	0140	1070	1030
72011	M	0060	0045	0060	1	00.9	00.1	00.8	1	1000	1000	1	0060	0040	0050	00.9	00.2	00.9	0100	0190	0090	0830	0860
72011	1	0075	0055	0070	1	01.0	00.4	01.0	1	0900	0900	1	0070	0060	0080	00.6	00.3	00.9	0080	0190	0080	0820	0830
72011	2												0050	0050	0090	00.9	00.3	01.0	0110	0220	0110	0830	0910
72011	3												0050	0070	0080	00.4	00.4	00.5	0160	0260	0180	0920	0940
72011	4	0105	0070	0120	1	00.8	00.2	00.8	1	0950	0950	1	0130	0070	0100	00.8	00.4	00.7	0140	0220	0140	0810	0890
72012	0	0060	0025	0095	1	00.2	00.0	01.2	1	1400	1400	2	0020	0020	0030	00.0	00.0	00.0	0180	0230	0100	1430	1260
72012	M	0025	0035	0050	1	00.1	00.0	00.5	1	0700	0800	1	0130	0050	0140	01.4	00.0	01.3	0100	0450	0080	0800	0890
72012	1	0055	0035	0065	1	00.4	00.0	00.7	1	1400	1400	2	0030	0030	0030	00.1	00.0	00.0	0170	0560	0180	1270	1300
72012	2												0100	0020	0110	00.7	00.0	01.3	0180	0600	0180	1300	1350
72012	3												0120	0120	0250	01.3	01.3	01.2	0180	0650	0130	1330	1260
72013	0	0090	0070	0140	1	02.2	00.6	02.3	2	0900	0900	1	0100	0030	0100	01.2	00.0	01.4	0110	0300	0120	0850	0870
72013	M	0030	0030	0030	1	00.0	00.0	00.0	1	0800	0800	1	0050	0030	0040	00.0	00.0	00.0	0100	0580	0080	0770	0790
72013	1	0050	0035	0030	1	00.9	00.0	00.0	1	0900	0900	1	0030	0010	0020	00.0	00.0	00.0	0100	0420	0120	0740	0830
72013	2												0090	0030	0100	01.3	00.3	01.6	0120	0480	0130	0760	0830
72013	3												0100	0020	0090	01.7	00.1	01.7	0130	0500	0130	0840	0870
72013	4	0090	0275	0110	1	00.5	01.3	00.4	1	0800	0800	1	0060	0030	0020	00.0	00.3	00.1	0100	0520	0090	0770	0830
72014	0	0170	0065	0160	1	02.0	00.0	01.8	2	0700	0700	1	0220	0070	0210	02.3	00.0	03.0	0110	0140	0120	0740	0750
72014	M	0130	0120	0195	1	00.1	00.3	00.1	1	0675	0675	1	0230	0050	0120	00.1	00.0	00.0	0080	0140	0080	0690	0670
72014	1	0215	0100	0215	1	03.4	00.1	02.4	2	0750	0750	1	0320	0080	0290	04.0	00.4	03.6	0120	0180	0120	0710	0720
72014	2												0300	0060	0300	01.6	00.1	01.9	0100	0170	0120	0690	0710
72014	3												0260	0060	0240	02.1	00.1	02.2	0120	0180	0130	0690	0700
72014	4	0180	0095	0190	1	01.6	00.1	01.7	2	0800	0800	1	0230	0030	0220	02.0	00.0	01.4	0100	0150	0100	0690	0690
72015	0	0475	0370	0550	2	05.6	06.4	05.5	2	0900	0900	1	0710	0230	0610	06.3	03.9	05.7	0100	0140	0100	0810	0830
72015	M	0115	0180	0200	1	00.1	03.3	00.1	1	1050	1050	1	0420	0220	0340	00.3	03.0	00.6	0110	0180	0100	0920	1010
72015	1	0015	0075	0025	1	00.0	02.5	00.0	1	1100	1050	1	0080	0100	0060	00.0	01.0	00.0	0100	0120	0100	0980	0970
72015	2												0160	0120	0350	00.0	02.2	00.2	0100	0110	0060	0970	1000
72015	3												0090	0090	0060	00.0	00.9	00.0	0130	0160	0140	0960	0980
72015	4	0040	0095	0065	1	00.0	00.7	00.0	1	1000	1000	1	0030	0080	0030	00.0	01.2	00.0	0090	0090	0100	0970	0960
72016	0	0105	0060	0105	1	02.7	00.1	02.2	2	1050	1050	1	0120	0080	0060	01.0	00.7	00.0	0110	0190	0080	0960	1000
72016	M	0110	0075	0070	1	00.4	00.7	00.0	1	0650	0700	1	0300	0040	0030	00.1	00.0	00.0	0080	0180	0070	0610	0660
72016	1	0060	0035	0050	1	00.4	00.1	00.4	1	0800	0800	1	0030	0020	0020	00.1	00.2	00.0	0080	0190	0080	0710	0740
72016	2												0060	0010	0050	00.6	00.0	00.5	0100	0370	0090	0750	0750
72016	3												0050	0020	0020	00.5	00.0	00.4	0130	0520	0130	1410	1480
72016	4	0150	0095	0175	1	05.1	02.1	04.7	2	0950	0950	1	0150	0080	0150	04.6	02.6	04.8	0140	0180	0140	0910	0940
72051	0	0320	0135	0310	2	06.9	02.1	06.4	2	0900	0900	1	0300	0100	0310	04.8	00.1	05.7	0100	0190	0110	0900	0930
72051	M	0025	0045	0035	1	00.0	00.0	00.0	1	1000	1000	1	0030	0020	0040	00.0	00.0	00.0	0090	0160	0080	0920	0950
72051	1	0015	0015	0015	1	00.0	00.0	00.0	1	0825	0850	1	0040	0030	0030	00.0	00.0	00.0	0120	0200	0110	0750	0780
72051	2												0130	0040	0080	00.0	00.0	00.0	0100	0170	0080	0800	0760
72051	3												0090	0030	0080	00.0	00.0	00.0	0160	0280	0160	0790	0810
72051	4	0050	0045	0050	1	00.0	00.0	00.0	1	0900	0900	1	0090	0080	0060	00.0	00.0	00.0	0100	0150	0100	0920	0930
72052	0	0160	0115	0165	1	06.4	02.8	06.4	2	1100	1100	1	0200	0140	0200	06.2	02.8	06.3	0120	0180	0120	1100	1090
72052	M	0085	0055	0110	1	01.5	00.3	01.3	1	0950	0950	1	0080	0030	0080	00.8	00.2	01.0	0120	0220	0120	0860	0900
72052	1	0060	0065	0075	1	00.8	00.2	00.9	1	1000	1000	1	0040	0030	0060	00.5	00.2	00.6	0100	0190	0110	0980	0950
72052	2												0080	0050	0080	00.7	00.4	00.8	0130	0260	0120	0920	0920
72052	3												0050	0030	0050	00.8	00.2	00.9	0200	0280	0210	1130	1150
72052	4	0065	0050	0095	1	01.4	00.4	01.1	1	1200	1200	1	0080	0080	0090	01.8	01.7	01.7	0100	0160	0140	1240	1220
72053	0	0465	0195	0445	2	05.6	01.8	04.4	2	1000	1025	1	0350	0050	0240	03.0	00.0	02.2	0100	0160	0100	0860	0880
72053	M	0135	0085	0100	1	00.0	00.0	00.0	1	0800	0800	1	0120	0050	0100	00.0	00.0	00.0	0060	0150	0060	0710	0690
72053	1	0315	0125	0385	2	02.0	00.0	01.5	2	0775	0775	1	0350	0030	0460	01.1	00.0	00.9	0090	0080	0080	0800	0760
72053	2												0210	0060	0230	00.1	00.0	00.1	0060	0140	0060	0710	0710
72053	3												0090	0030	0080	00.0	00.0	00.0	0080	0170	0100	0700	0710

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	SEQ	DEQ IDLE TEST HC 1ST	DEQ IDLE TEST HC 2500	DEQ IDLE TEST HC 2ND	S	DEQ IDLE TEST CO 1ST	DEQ IDLE TEST CO 2500	DEQ IDLE TEST CO 2ND	S	DEQ IDLE TEST RPM 1ST	DEQ IDLE TEST RPM 2ND	S	HTS IDLE TEST HC 1ST	HTS IDLE TEST HC 2500	HTS IDLE TEST HC 2ND	HTS IDLE TEST CO 1ST	HTS IDLE TEST CO 2500	HTS IDLE TEST CO 2ND	HTS IDLE TEST NOX 1ST	HTS IDLE TEST NOX 2500	HTS IDLE TEST NOX 2ND	HTS IDLE TEST RPM 1ST	HTS IDLE TEST RPM 2ND
72054	0	0270	0530	0340	2	07.2	05.4	07.2	2	1000	1000	1	0330	0230	0310	05.7	03.2	05.7	0140	0300	0130	0970	0980
72054	M	0015	0050	0020	1	00.0	00.1	00.0	1	0950	0950	1	0140	0030	0120	00.0	00.0	00.0	0050	0900	0060	0700	0780
72054	1	0020	0150	0065	1	00.0	01.4	00.0	1	0850	0850	1	0060	0040	0030	00.0	00.0	00.0	0065	0260	0080	0810	0830
72055	0	0570	0325	0520	2	05.1	01.0	03.7	2	1000	1000	2	0740	0130	0580	02.3	00.0	03.2	0130	0680	0140	0950	0970
72055	M	0080	0085	0130	1	00.5	00.2	00.8	1	0950	0950	1	0060	0050	0060	00.4	00.0	00.6	0080	0500	0090	0940	0900
72055	1	0045	0035	0030	1	00.6	00.0	00.0	1	0950	0950	1	0070	0020	0060	00.0	00.0	00.0	0120	0590	0130	0800	0810
72055	2												0030	0010	0030	00.0	00.0	00.0	0100	0570	0110	0770	0810
72055	3												0030	0020	0020	00.0	00.0	00.0	0120	0840	0160	0730	0780
72055	4	0095	0060	0115	1	02.5	00.1	02.2	2	1000	1000	1	0110	0030	0090	01.9	00.0	01.9	0130	0540	0140	0940	0980
72056	0	0490	0120	0490	2	04.6	00.2	04.4	2	0800	0800	1	0700	0130	0630	03.8	01.1	03.1	0100	0160	0100	0790	0820
72056	M	0045	0025	0100	1	00.0	00.0	00.1	1	0650	0700	1	0110	0050	0080	00.0	00.0	00.0	0080	0160	0080	0670	0660
72056	1	0175	0045	0230	1	00.2	00.0	00.4	1	0725	0750	1	0180	0030	0240	00.0	00.0	00.2	0080	0170	0060	0700	0700
72056	2												0650	0070	0630	01.2	00.0	01.3	0090	0170	0090	0760	0750
72056	3												0340	0060	0420	00.3	00.0	00.5	0080	0180	0090	0750	0770
72056	4	0045	0015	0045	1	00.0	00.0	00.0	1	0800	0800	1	0060	0010	0050	00.0	00.0	00.0	0080	0140	0100	0770	0810
72057	0	0190	0060	0170	2	02.9	00.0	03.2	2	1150	1150	2	0080	0020	0030	00.6	00.0	00.6	0080	0400	0070	1070	1130
72057	M	0090	0035	0035	1	01.0	00.0	01.0	1	0900	0900	1	0040	0050	0060	00.0	00.0	00.0	0100	0220	0100	1120	0850
72057	1	0035	0015	0020	1	00.5	00.1	00.3	1	0950	0950	1	0030	0030	0050	00.0	00.0	00.0	0130	0290	0120	0900	0890
72057	2												0100	0050	0090	00.7	00.0	00.4	0160	0340	0140	1010	1020
72057	3												0280	0130	0290	08.3	00.6	08.3	0160	1100	0170	1150	1170
72057	4	0185	0075	0160	2	03.4	00.2	03.2	2	0900	0900	1	0220	0060	0190	02.0	00.0	02.4	0090	0240	0120	0780	0820
72058	0	0200	0165	0195	2	05.4	06.0	05.4	2	0800	0800	1	0250	0130	0200	05.2	02.1	04.4	0130	0240	0120	0810	0800
72058	M	0100	0055	0085	1	00.7	01.0	00.8	1	1000	1200	1	0120	0030	0080	00.5	00.3	00.6	0050	0220	0060	0750	0770
72058	1	0115	0115	0115	1	01.1	02.0	01.2	1	0900	0900	1	0140	0070	0130	00.6	01.1	00.6	0090	0360	0090	0790	0790
72058	2												0170	0080	0170	01.6	00.9	02.0	0100	0380	0110	0790	0810
72058	3												0140	0090	0110	00.6	01.8	00.7	0080	0260	0080	0760	0780
72058	4	0100	0140	0115	1	01.2	02.5	01.7	1	1000	1000	1	0150	0120	0120	01.1	03.6	01.1	0080	0200	0080	0810	0850
72059	0	0250	0165	0250	2	04.5	04.1	02.8	2	0800	0800	1	0150	0140	0090	00.3	01.7	00.0	0070	0180	0060	0660	0640
72059	M	0190	0055	0070	1	00.7	00.0	00.0	1	0600	0600	1	0090	0120	0120	00.2	00.6	00.0	0070	0180	0070	0600	0600
72059	1	0200	0130	0130	1	01.7	03.6	00.0	1	0750	0800	1	0200	0140	0140	00.0	01.6	00.0	0080	0190	0070	0650	0650
72060	0	0255	0155	0280	2	06.2	00.8	05.8	2	1000	0850	1	0300	0150	0240	06.0	01.8	04.5	0120	0160	0130	0700	0730
72060	M	0120	0070	0075	1	00.0	00.0	00.0	1	0800	0800	1	0080	0040	0070	00.0	00.0	00.0	0120	0160	0110	0690	0650
72060	1	0080	0095	0105	1	00.0	01.6	00.1	1	0700	0700	1	0190	0060	0090	00.0	00.0	00.0	0090	0140	0100	0660	0650
72060	2												0090	0050	0080	00.0	00.0	00.0	0100	0140	0120	0750	0760
72060	3												0050	0050	0040	00.0	00.0	00.0	0110	0140	0120	0760	0780
72060	4	0095	0145	0090	1	00.0	00.2	00.0	1	0800	0800	1	0030	0010	0020	00.0	00.4	00.0	0080	0110	0100	0770	0760
72061	0	0145	0080	0140	1	02.8	01.2	02.7	2	0950	0950	1	0110	0050	0120	01.7	00.4	02.1	0100	0160	0100	1000	1040
72061	M	0130	0070	0100	1	01.3	00.5	01.3	1	0900	0900	1	0120	0060	0100	00.9	00.3	01.1	0090	0160	0090	0950	0960
72061	1	0105	0070	0115	1	01.7	00.5	01.8	1	1050	1050	1	0120	0050	0130	01.2	00.4	01.5	0100	0210	0110	0980	0980
72061	2												0130	0080	0140	01.6	00.6	01.6	0100	0200	0100	0970	0910
72062	0	0245	0155	0325	2	02.8	00.1	02.4	2	0700	0800	1	0280	0070	0390	02.0	00.0	01.6	0120	0160	0120	0700	0800
72062	M	0035	0040	0040	1	00.0	00.4	00.0	1	0800	0850	1	0080	0110	0060	00.0	00.0	00.0	0090	0140	0090	0760	0770
72062	1	0040	0040	0070	1	00.0	00.0	00.0	1	0900	0900	1	0090	0100	0090	00.0	00.0	00.0	0100	0170	0110	0830	0800
72062	2												0260	0190	0280	00.4	00.2	00.1	0095	0190	0100	0840	0850
72062	3												0090	0100	0090	00.0	00.0	00.0	0100	0180	0100	0780	0840
72062	4	0075	0135	0125	1	00.0	00.0	00.0	1	0700	0700	1	0150	0090	0100	00.0	00.0	00.0	0070	0160	0080	0710	0730
72063	0	1200	0390	1225	2	02.0	00.1	01.2	2	1050	1050	1	1140	0880	1350	06.0	00.1	00.6	0100	0180	0130	0830	0970
72063	M	0045	0055	0050	1	00.0	00.0	00.0	1	1000	1000	1	0090	0120	0040	00.0	00.0	00.0	0200	0160	0220	0970	0980
72063	1	0395	0170	0370	2	03.7	00.1	02.5	2	1100	1100	7	0520	0190	0460	01.3	00.0	02.5	0140	0210	0130	1050	1080
72063	R	0040	0130	0040	1	00.0	00.0	00.0	1	1000	1000	1	0060	0120	0030	00.0	00.0	00.0	0160	0170	0140	0930	0920
72063	L	0360	0190	0085	1	00.6	00.0	00.0	1	1050	1050	1	0100	0090	0050	00.0	00.0	00.0	0180	0190	0180	0920	0970
72063	2												0070	0230	0080	02.1	00.0	00.0	0090	0160	0160	0890	1010
72063	3												0110	0150	0060	00.0	00.0	00.0	0160	0140	0170	0930	0950
72063	4	0090	0165	0070	1	00.0	00.0	00.0	1	0900	0900	1	0050	0100	0030	00.0	00.0	00.0	0140	0160	0190	0950	1000

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPAND	SE	DEW HC 1ST	DEW HC 2500	DEW HC 2ND	S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	S	TEST RPM 1ST	TEST RPM 2ND	S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
72064	0	0590	0260	0695	2	09.9	02.9	10.2	2	1050	1050	1	0730	0210	0830	09.6	01.0	09.9	0120	0650	0130	1120	1150
72064	M	0105	0060	0100	1	00.0	00.1	00.0	1	1050	1100	1	0250	0090	0130	00.0	01.2	00.0	0140	0580	0160	1030	1070
72064	1	0185	0090	0195	1	00.0	00.2	00.0	1	1125	1200	2	0200	0080	0190	00.0	01.1	00.0	0160	0560	0160	1080	1140
72065	0	0410	0225	0425	2	06.8	05.9	06.0	2	1100	1100	2	0430	0160	0420	04.2	00.9	05.2	0100	0130	0110	1050	1100
72065	M	0045	0045	0045	1	00.0	00.6	00.0	1	0825	0825	1	0120	0050	0080	00.0	00.0	00.0	0070	0080	0070	0710	0710
72065	1	0030	0050	0030	1	00.0	01.1	00.0	1	0750	0800	1	0140	0040	0080	00.0	00.0	00.0	0080	0130	0080	0640	0680
72065	2												0120	0030	0060	00.0	00.0	00.0	0180	0750	0130	0670	0700
72065	3												0130	0030	0080	00.0	00.3	00.0	0200	0070	0160	0620	0740
72065	4	0055	0040	0050	1	00.0	00.3	00.0	1	0650	0750	1	0150	0030	0070	00.0	00.0	00.0	0130	0060	0100	0600	0640
72101	0	0175	0115	0190	1	05.9	01.5	06.4	2	0800	0800	1	0210	0090	0200	05.4	00.7	05.7	0100	0200	0100	0740	0790
72101	M	0110	0100	0125	1	02.1	01.2	02.5	1	0775	0775	1	0160	0050	0120	01.7	00.4	01.9	0090	0250	0090	0730	0760
72101	1	0105	0060	0110	1	02.4	00.8	02.3	1	0900	0900	1	0140	0210	0120	01.5	01.9	01.1	0080	0200	0080	0760	0780
72101	2												0110	0340	0100	01.8	05.1	01.7	0100	0200	0100	0730	0720
72101	3												0200	0140	0180	02.9	01.3	03.5	0180	0460	0180	0900	0890
72101	4	0170	0145	0205	1	04.5	01.4	04.4	2	1000	1000	1	0160	0090	0140	03.6	01.1	03.9	0110	0220	0110	0940	0950
72102	0	0365	0115	0410	2	02.6	00.2	02.7	2	0800	0885	1	0560	0140	0480	01.2	00.1	00.7	0090	0200	0090	0770	0780
72103	0	0090	0050	0145	1	01.1	00.2	02.3	2	0700	0700	1	0150	0060	0200	00.7	00.2	02.1	0080	0130	0100	0670	0710
72103	M	0075	0000	0085	1	00.0	00.0	00.0	1	0650	0650	1	0080	0020	0100	00.2	00.0	00.4	0050	0440	0050	0640	0660
72103	1	0070	0025	0070	1	00.8	00.0	00.8	1	0800	0800	3	0100	0010	0100	01.0	00.0	00.4	0100	0460	0080	0730	0680
72103	2												0080	0010	0100	00.0	00.0	00.4	0100	0490	0110	0700	0720
72103	3												0150	0030	0130	00.4	00.0	00.9	0130	0540	0160	0660	0710
72103	4	0100	0075	0195	1	01.0	00.1	01.9	1	0750	0750	1	0160	0050	0180	00.9	00.1	00.9	0070	0380	0080	0700	0720
72104	0	0140	0090	0150	1	04.5	01.3	04.6	2	0825	0850	1	0120	0080	0100	02.8	01.0	03.4	0090	0220	0100	0900	0870
72104	M	0085	0075	0085	1	01.5	00.7	01.5	1	0900	0900	1	0100	0030	0050	00.7	00.2	00.7	0110	0250	0110	0820	0810
72104	1	0085	0050	0095	1	01.2	00.4	01.3	1	1050	1050	1	0100	0040	0080	00.9	00.2	00.9	0100	0180	0120	0840	0840
72104	2												0200	0050	0230	00.3	00.2	00.5	0110	0230	0120	0750	0790
72104	3												0090	0060	0100	01.2	00.4	01.1	0170	0120	0170	0830	0870
72104	4	0075	0085	0095	1	01.6	00.7	01.3	1	1100	1100	1	0060	0050	0080	01.0	00.4	01.2	0110	0260	0110	0950	0990
72105	0	0200	0095	0235	1	04.1	00.3	04.2	2	0825	0825	1	0190	0050	0160	01.7	00.0	02.2	0110	0160	0120	0750	0770
72105	M	0080	0085	0045	1	00.7	01.2	00.0	1	0700	0700	1	0060	0040	0040	00.1	00.0	00.0	0050	0150	0080	0690	0660
72105	1	0010	0020	0015	1	00.0	00.0	00.0	1	0850	0850	1	0050	0030	0030	00.0	00.0	00.0	0060	0140	0080	0630	0660
72105	2												0050	0060	0030	00.0	00.0	00.0	0080	0160	0100	0640	0680
72105	3												0060	0050	0040	00.0	00.0	00.0	0080	0170	0090	0670	0690
72106	0	0275	0155	0285	2	03.3	00.7	03.2	2	0900	0900	3	0380	0200	0230	03.5	01.9	00.9	0110	0200	0090	0890	0910
72106	M	0010	0025	0025	1	00.0	00.6	00.0	1	1000	1000	1	0180	0040	0030	01.1	00.0	00.3	0080	0140	0100	0890	0950
72106	1	0010	0030	0015	1	00.0	00.0	00.0	1	0900	0900	1	0060	0020	0030	00.0	00.0	00.0	0090	0100	0100	0910	0890
72106	2												0080	0010	0030	00.0	00.0	00.3	0080	0090	0090	0930	0920
72106	3												0130	0020	0010	00.9	00.0	00.0	0100	0150	0140	0840	0900
72106	4	0040	0045	0060	1	00.0	00.0	00.0	1	0950	0950	1	0030	0020	0020	00.0	00.0	00.0	0080	0100	0080	0930	0890
72107	0	0185	0060	0180	1	03.2	00.1	02.9	2	1000	1000	1	0190	0020	0170	01.7	00.0	01.9	0120	0300	0110	0890	0930
72107	M	0045	0025	0050	1	00.0	00.0	00.0	1	0850	0850	1	0040	0020	0030	00.0	00.0	00.0	0090	0280	0100	0780	0810
72107	1	0340	0100	0365	2	06.1	00.3	05.9	2	0800	0850	1	0480	0090	0420	06.3	00.0	06.4	0120	0320	0130	0790	0830
72107	R	0035	0030	0035	1	00.0	00.0	00.0	1	0800	0800	1	0090	0020	0050	00.0	00.0	00.0	0080	0290	0110	0670	0720
72107	L	0025	0030	0025	1	00.0	00.0	00.0	1	0750	0750	1	0060	0020	0030	00.0	00.0	00.0	0080	0290	0100	0730	0760
72107	2												0020	0010	0020	00.0	00.0	00.0	0070	0240	0080	0800	0820
72107	3												0050	0010	0030	00.0	00.0	00.0	0080	0270	0100	0810	0880
72107	4	0030	0040	0060	1	00.0	00.0	00.0	1	1000	1000	1	0090	0020	0040	00.0	00.0	00.0	0080	0270	0080	0860	0870
72108	0	0200	0115	0315	1	06.9	03.3	06.7	2	0800	0800	1	0130	0010	0120	04.2	02.4	04.1	0120	0180	0120	0830	0870
72108	M	0120	0060	0125	1	02.0	00.7	01.8	1	0900	0900	1	0180	0050	0140	01.4	00.8	01.4	0080	0200	0090	0880	0910
72108	1	0100	0050	0120	1	02.4	01.1	02.4	1	0950	0950	1	0180	0050	0120	01.7	01.3	01.8	0060	0180	0035	0890	0910
72108	2												0300	0060	0160	00.5	00.5	00.1	0080	0140	0080	0950	0990

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPANO	SEQ	DEQ IDLE TEST HC 1ST	DEQ IDLE TEST HC 2500	DEQ IDLE TEST HC 2ND	S	DEQ IDLE TEST CO 1ST	DEQ IDLE TEST CO 2500	DEQ IDLE TEST CO 2ND	S	DEQ IDLE TEST RPM 1ST	DEQ IDLE TEST RPM 2ND	S	HTS IDLE TEST HC 1ST	HTS IDLE TEST HC 2500	HTS IDLE TEST HC 2ND	HTS IDLE TEST CO 1ST	HTS IDLE TEST CO 2500	HTS IDLE TEST CO 2ND	HTS IDLE TEST NOX 1ST	HTS IDLE TEST NOX 2500	HTS IDLE TEST NOX 2ND	HTS IDLE TEST RPM 1ST	HTS IDLE TEST RPM 2ND
72109	0	0455	0090	0605	2	04.7	00.2	04.3	2	0750	0750	1	0450	0080	0430	03.3	00.0	03.9	0120	0200	0130	0730	0750
72109	M	0025	0015	0030	1	00.0	00.0	00.0	1	0900	0900	1	0030	0020	0020	00.0	00.0	00.0	0080	0190	0100	0640	0620
72109	1	0035	0015	0025	1	00.0	00.0	00.0	1	0600	0600	1	0030	0020	0020	00.0	00.0	00.0	0050	0140	0070	0560	0600
72109	2												0390	0070	0260	00.1	00.0	00.0	0070	0170	0060	0640	0640
72109	3												0090	0050	0120	00.0	00.0	00.0	0120	0180	0060	0950	0650
72109	4	0045	0160	0030	1	00.0	01.7	00.0	1	0900	0900	1	0130	0050	0140	00.0	00.0	00.0	0080	0160	0070	0620	0620
72110	0	0470	0200	0455	2	01.7	00.5	02.1	2	0700	0700	1	0880	0230	0760	01.7	00.0	01.5	0090	0140	0090	0700	0700
72110	M	0020	0025	0020	1	00.0	00.0	00.0	1	0850	0850	1	0140	0070	0070	00.0	00.0	00.0	0060	0100	0060	0750	0800
72110	1	0045	0080	0040	1	00.0	00.0	00.0	1	0800	0800	1	0200	0080	0120	00.0	00.0	00.0	0110	0130	0100	0790	0830
72110	2												0720	0190	0440	00.6	00.1	00.6	0090	0160	0100	0820	0810
72110	3												0100	0070	0100	00.0	00.0	00.0	0100	0130	0080	0850	0800
72110	4	0130	0110	0140	1	00.0	00.0	00.0	1	0750	0750	1	0160	0310	0110	00.0	00.0	00.0	0140	0110	0150	0720	0820
72111	0	0325	0180	0490	2	02.6	01.9	02.3	2	0600	0600	1	0760	0100	0400	00.8	00.0	00.4	0070	0170	0070	0520	0540
72111	M	0085	0025	0055	1	00.0	00.0	00.0	1	0800	0800	1	0300	0040	0340	00.4	00.0	00.5	0070	0350	0090	0650	0670
72111	1	0240	0100	0295	2	05.1	02.1	03.4	2	0700	0725	1	0240	0060	0240	02.2	00.0	02.0	0120	0320	0105	0700	0680
72111	2												0140	0020	0140	00.9	00.0	02.0	0110	0450	0120	0690	0720
72111	3												0160	0020	0170	02.8	00.0	02.7	0130	0160	0130	0760	0760
72111	4	0155	0080	0205	1	03.1	01.2	02.7	2	0800	0800	1	0130	0030	0140	03.1	00.1	02.5	0110	0160	0120	0740	0770
72112	0	0445	0225	0395	2	05.5	00.2	03.6	2	1000	1050	2	0610	0250	0420	06.3	00.2	03.1	0120	0180	0140	0940	1120
72112	M	0145	0110	0140	1	01.7	00.1	00.8	1	0800	0800	1	0050	0040	0020	00.0	00.0	00.0	0120	0140	0120	0840	0850
72112	1	0570	0160	0615	2	09.8	00.1	08.7	2	0850	0850	1	0660	0080	0690	09.2	00.0	09.1	0140	0140	0130	0980	0970
72112	K	0075	0065	0040	1	00.1	00.0	00.0	1	0950	0950	1	0090	0040	0050	00.0	00.0	00.0	0140	0160	0160	0900	0930
72112	C	0135	0125	0100	1	00.0	00.0	00.0	1	1000	1000	1	0050	0030	0020	00.0	00.0	00.0	0180	0155	0200	0900	0950
72112	2												0100	0070	0050	00.0	00.0	00.0	0130	0200	0180	0890	0980
72112	3												0090	0050	0030	00.0	00.0	00.0	0180	0160	0230	0950	0980
72112	4	0095	0090	0085	1	00.0	00.1	00.0	1	1000	1000	1	0150	0100	0060	00.0	00.0	00.0	0120	0130	0180	0860	1000
72113	0	0115	0040	0140	1	02.5	00.3	02.3	2	0800	0800	1	0160	0050	0150	02.8	00.2	02.3	0120	0200	0120	0820	0830
72113	M	0050	0030	0075	1	00.1	00.1	00.1	1	0800	0800	1	0080	0030	0060	00.2	00.1	00.0	0080	0180	0080	0750	0740
72113	1	0055	0065	0030	1	00.1	00.9	00.0	1	0800	0800	1	0040	0020	0030	00.1	00.0	00.0	0080	0250	0080	0800	0790
72113	2												0050	0010	0030	00.0	00.0	00.0	0080	0170	0070	1000	1020
72113	3												0060	0010	0030	00.2	00.0	00.3	0110	0440	0100	0810	0850
72113	4	0030	0025	0035	1	00.0	00.0	00.0	1	0750	0800	1	0030	0010	0020	00.0	00.0	00.0	0080	0375	0070	0730	0720
72114	0	0145	0105	0155	1	04.0	02.7	04.6	2	1000	1000	1	0220	0140	0210	05.4	03.6	05.3	0120	0180	0120	0980	0990
72114	M	0160	0130	0220	1	00.0	03.3	00.0	1	0700	0750	1	0300	0030	0220	00.0	00.0	00.0	0045	0150	0035	0700	0700
72114	1	0190	0060	0185	1	00.0	01.0	00.0	1	0700	0700	1	0200	0050	0190	00.0	00.0	00.0	0040	0210	0050	0730	0720
72114	2												0400	0010	0270	00.0	00.0	00.0	0060	0200	0060	0680	0680
72114	3												0060	0010	0140	00.0	00.0	00.0	0070	0200	0070	0750	0770
72114	4	0280	0135	0310	1	00.0	03.8	00.1	1	0750	0750	1	0150	0010	0210	00.0	00.0	00.0	0050	0190	0050	0750	0740
72115	0	0250	0220	0500	2	05.1	00.5	05.3	2	0950	1000	1	0480	0140	0550	04.9	00.8	05.9	0080	0140	0100	0800	0790
72115	M	0015	0020	0020	1	00.0	00.0	00.0	1	1050	1100	1	0090	0030	0060	00.0	00.0	00.0	0070	0140	0080	1040	1060
72115	1	0015	0040	0050	1	00.0	00.5	00.0	1	1700	1700	2	0080	0030	0050	00.0	00.0	00.0	0060	0140	0080	0890	0950
72115	K	0035	0025	0030	1	00.0	00.3	00.0	1	1050	1050	1	0060	0020	0050	00.0	00.0	00.0	0080	0150	0080	0870	0860
72115	C	0280	0145	0340	2	04.4	01.0	02.1	2	1025	1025	1	0280	0040	0300	00.1	00.0	00.3	0050	0140	0050	0830	0850
72115	2												0080	0050	0060	00.0	00.0	00.0	0030	0120	0040	0740	0750
72115	3												1140	0500	1040	00.2	00.2	00.1	0080	0140	0080	0850	0880
72115	4	0040	0070	0045	1	00.0	00.0	00.0	1	0850	0850	1	0100	0120	0080	00.0	00.0	00.0	0060	0160	0070	0830	0850
72116	0	0455	0165	0545	2	06.4	01.6	06.0	2	0950	1000	1	0530	0300	0570	04.9	01.5	05.1	0090	0220	0090	0920	0960
72116	M	0085	0105	0190	1	00.0	01.5	00.1	1	0800	0800	1	0080	0140	0030	00.0	00.1	00.0	0120	0140	0120	0890	0920
72116	1	0070	0035	0070	1	00.0	00.0	00.0	1	1000	1100	1	0130	0080	0080	00.0	00.2	00.0	0120	0400	0120	0980	1020
72116	2												0190	0130	0140	00.2	00.7	00.1	0090	0280	0110	0900	0960
72116	3												0020	0090	0040	00.0	00.0	00.0	0100	0210	0070	0930	0950

APPENDIX B - IDLE TEST RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SE	DEQ HC 1ST	DEQ HC 2500	DEQ HC 2ND	DEQ S	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	IDLE S	TEST RPM 1ST	TEST RPM 2ND	TEST S	HTS HC 1ST	HTS HC 2500	HTS HC 2ND	IDLE CO 1ST	IDLE CO 2500	IDLE CO 2ND	TEST NOX 1ST	TEST NOX 2500	TEST NOX 2ND	TEST RPM 1ST	TEST RPM 2ND
72117	0	0165	0105	0195	1	04.7	01.7	04.7	2	0800	0800	1	0170	0090	0190	04.4	00.9	04.4	0080	0160	0070	0750	0730
72117	M	0045	0040	0045	1	01.2	00.2	01.2	1	1000	1000	1	0070	0040	0060	00.5	00.1	00.6	0100	0150	0110	0910	0970
72117	1	0050	0045	0075	1	01.7	00.7	01.8	1	1000	1000	1	0070	0020	0060	00.9	00.2	00.8	0130	0160	0120	0870	0880
72117	2												0070	0040	0070	01.0	00.4	01.3	0140	0220	0140	0970	0980
72117	4	0065	0055	0125	1	00.8	00.1	00.8	1	0900	0950	1	0090	0040	0090	00.6	00.1	00.6	0080	0170	0100	0880	0840

APPENDIX C - FTP AND HFET RESULTS

Legend

ODOM - Odometer

HC - Hydrocarbon Emissions in Grams per Mile

CO - Carbon Monoxide Emissions in Grams per Mile

CO_2 - Carbon Dioxide Emissions in Grams per Mile

NO_x - Oxides of Nitrogen (uncorrected) Emissions in Grams per Mile

NO_xC - Oxides of Nitrogen Emission Corrected for Humidity in Grams per mile

MPG - Miles per Gallon Calculated by the Carbon Balance Method

SEQ - O = Initial Test

M = After Maintenance Retest

1 = 1st Retest (1-3 mo. after Intitial Test)

R = After Restorative Maintenance Retest

C = Check 1 month after Restorative Maintenance

2 = 6 Month Retest

3 = 9 Month Retest

4 = 12 Month Retest

PROPANE - Propane Gain Check

NEU - Neutral

DR - Drive

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51000	0	790124	051027	001.23	022.75	0442.2	02.07	01.76	18.4	000.23	003.10	0317.3	02.75	27.47	010	
51000	1	790425	054166	001.73	022.68	0425.8	02.30	02.03	19.0	000.40	003.38	0313.6	03.02	27.70	999	
51000	2	790809	057315	001.36	015.95	0458.9	01.83	01.80	18.2	000.36	003.44	0337.4	02.91	25.78	999	
51000	3	791031	060280	001.67	023.14	0452.5	02.25	02.00	17.9	000.43	004.36	0323.0	03.40	26.78	999	
51000	4	800303	063111	001.91	030.19	0425.8	01.69	01.52	18.5	000.46	004.35	0322.0	02.94	26.85	999	888
51001	0	790130	044114	001.20	006.26	0327.6	03.72	02.97	25.6	000.56	003.79	0240.8	05.15	35.69	300	
51001	1	790425	045516	001.27	009.41	0320.8	03.23	02.88	26.1	000.57	004.26	0230.0	04.32	37.19	100	
51001	2	790824	048292	001.47	017.31	0284.0	02.73	02.91	28.1	000.64	005.96	0202.1	03.53	41.54	999	
51001	3	791112	049709	001.41	009.95	0358.1	03.84	03.26	23.4	000.75	005.74	0240.5	04.32	35.20	190	
51001	4	800401	052851	001.60	036.49	0351.5	03.20	02.67	21.4	000.79	013.32	0271.8	04.76	30.04	100	888
51002	0	790125	096695	003.57	047.26	0744.6	03.56	02.99	10.7	000.71	006.42	0522.1	04.91	16.59	070	
51002	1	790425	101419	001.84	016.67	0768.6	04.29	03.75	11.1	000.65	003.14	0543.0	06.27	16.12	180	
51002	2	790817	106832	001.87	033.10	0780.9	03.90	03.86	10.6	000.79	006.52	0564.0	06.69	15.38	120	070
51002	3	791107	111852	001.96	040.69	0786.0	03.98	03.44	10.4	000.66	007.38	0534.2	05.93	16.19	170	040
51002	4	800305	116260	001.93	028.36	0745.3	03.79	03.18	11.1	000.69	005.15	0527.0	05.74	16.51	180	060
51003	0	790129	044281	002.43	044.61	0630.8	02.05	01.66	12.5	000.27	009.08	0509.5	02.11	16.90	999	
51004	0	790130	067008	001.25	021.58	0585.3	02.28	01.82	14.2	000.15	001.97	0448.0	03.62	19.64	260	
51004	1	790502	069055	000.66	010.74	0693.6	03.09	02.74	12.4	000.07	000.48	0480.5	03.81	18.42	340	
51005	0	790130	046429	001.81	015.28	0375.5	03.31	02.63	21.9	000.72	003.95	0261.8	04.54	32.81	040	
51005	1	790501	048353	001.99	012.36	0355.4	03.10	02.74	23.3	000.76	003.96	0255.2	04.37	33.61	030	
51005	2	790830	053058	002.04	014.75	0349.7	02.77	02.77	23.4	000.71	004.85	0252.5	03.80	33.80	030	
51005	3	791112	054370	001.73	016.21	0351.0	02.81	02.42	23.2	000.63	004.81	0243.9	03.96	34.99	020	
51005	4	800318	056751	002.29	011.98	0385.3	03.48	02.89	21.6	000.73	004.39	0271.6	05.23	31.57	999	888
51006	0	790130	042228	002.71	025.50	0696.0	03.86	03.07	11.9	000.77	004.20	0482.0	06.71	18.06	020	
51006	1	790427	044795	004.74	008.17	0720.6	02.75	02.52	11.8	001.59	002.99	0430.5	03.01	20.14	999	
51006	2	790810	046686	010.47	022.17	0686.0	03.40	03.24	11.8	001.29	003.97	0501.2	05.89	17.34	010	999
51006	3	791109	048839	004.07	024.51	0675.6	02.82	02.45	12.2	000.72	004.05	0460.2	04.77	18.92	060	999
51006	4	800513	050284	001.60	019.45	0636.3	03.45	03.00	13.2	000.65	003.98	0458.4	05.89	19.00	030	010
51007	0	790131	017667	001.65	027.52	0592.0	01.56	01.25	13.8	000.12	003.10	0436.0	01.88	20.10	999	
51007	1	790501	039058	001.18	017.78	0609.4	02.26	02.00	13.8	000.14	002.55	0447.4	02.60	19.63	999	
51007	2	790810	040868	001.35	017.04	0608.6	01.85	02.03	13.9	000.18	002.83	0450.0	01.92	19.49	999	999
51007	3	791108	042155	002.03	050.11	0708.3	01.46	01.28	11.2	000.07	003.82	0470.1	01.56	18.62	999	999
51007	4	800129	043447	005.96	079.99	0663.4	01.76	01.40	11.0	000.28	005.46	0456.9	02.15	19.02	999	999
51008	0	790201	036802	000.96	010.11	0312.4	02.93	02.35	26.8	000.65	003.68	0213.9	04.92	39.99	020	
51008	1	790502	039624	001.13	006.52	0286.8	03.73	03.23	29.5	000.70	003.89	0216.3	04.91	39.48	999	
51008	2	790816	043011	001.27	009.29	0307.3	03.77	03.86	27.2	000.77	005.69	0223.4	04.65	37.77	999	
51008	3	791113	045652	001.17	007.31	0304.1	04.04	03.42	27.8	000.77	003.99	0222.1	05.06	38.43	999	
51008	4	800320	049687	001.19	009.59	0310.3	03.74	03.20	26.9	000.74	004.56	0233.4	05.24	36.50	999	888
51009	0	790202	064634	000.96	014.05	0440.8	03.89	03.14	19.0	000.62	005.81	0286.9	07.04	29.76	020	
51009	1	790602	066439	001.22	015.28	0417.1	03.38	03.26	19.9	000.65	004.73	0276.2	06.58	31.04	999	
51009	2	790815	070591	001.26	014.08	0447.5	03.16	03.14	18.7	000.66	005.35	0293.5	06.14	29.17	999	
51009	3	791112	073301	000.99	012.80	0425.6	03.51	03.04	19.8	000.61	004.81	0278.7	06.37	30.77	999	
51010	0	790206	042294	000.92	008.13	0777.0	08.70	08.00	11.2	000.44	015.42	0610.6	08.97	13.94	420	
51010	1	790430	044743	000.82	007.31	0814.1	02.76	02.55	10.7	000.15	000.60	0599.9	02.34	14.75	300	
51010	2	790821	047903	000.85	006.23	0785.7	02.82	02.87	11.1	000.15	000.16	0592.5	02.59	14.95	370	140
51010	3	791116	050342	000.86	006.87	0801.9	02.63	02.33	10.9	000.16	000.24	0615.9	02.98	14.38	180	130
51010	4	800306	053524	000.87	009.47	0806.1	03.69	03.08	10.8	000.26	006.77	0639.8	03.28	13.62	330	140

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	TIME	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51011	0	790208	057402	004.05	075.49	0532.7	01.22	01.06	13.4	002.06	053.53	0391.9	01.52	18.38	050	
51011	1	790505	058946	003.35	069.41	0522.8	01.12	01.05	13.8	001.86	043.88	0401.1	01.57	18.63	070	
51011	2	790827	061212	003.59	070.68	0534.9	00.84	00.83	13.5	001.90	048.45	0402.2	01.12	18.31	050	999
51011	3	791115	063473	003.62	077.53	0554.8	01.20	00.99	12.9	001.90	046.03	0413.8	01.68	18.02	999	999
51011	4	800130	064980	003.93	079.48	0530.9	01.54	01.18	13.3	002.07	047.37	0426.9	02.46	17.46	050	010
51012	0	790207	056104	001.86	023.88	0607.5	02.65	02.34	13.6	000.44	007.33	0484.9	03.93	17.81	060	
51013	0	790208	102730	000.84	005.59	0560.0	03.13	02.88	15.5	000.12	000.09	0426.7	03.37	20.76	110	
51013	1	790508	107165	000.70	003.80	0565.8	03.05	02.66	15.4	000.08	000.02	0434.1	03.01	20.42	220	
51013	2	790817	112730	000.96	006.03	0914.9	02.23	02.26	09.6	000.12	004.20	0749.4	02.84	11.72	120	040
51013	3	791114	117199	001.38	018.43	0692.3	02.33	01.95	12.2	000.16	001.21	0525.6	02.82	16.79	060	020
51013	4	800404	124098	004.41	036.22	0571.2	03.47	03.02	13.8	000.51	002.65	0438.9	04.07	19.94	999	999
51014	0	790207	039362	001.22	007.59	0750.2	02.30	02.11	11.6	000.63	002.77	0536.6	03.47	16.33	110	
51014	1	790504	040749	000.85	006.41	0807.9	02.29	02.12	10.8	000.52	002.36	0552.3	03.65	15.90	150	
51015	0	790209	091823	002.48	018.77	0634.3	01.76	01.62	13.2	000.17	000.42	0428.0	02.87	20.66	080	
51015	1	790504	095184	001.83	014.06	0566.2	03.15	02.95	14.9	000.20	000.27	0414.5	02.50	21.34	050	
51016	0	790209	040840	002.05	030.75	0623.8	03.47	03.21	13.1	000.21	005.15	0493.2	04.09	17.67	060	
51016	1	790504	043741	001.78	025.98	0673.8	04.00	03.74	12.3	000.10	001.33	0517.3	05.15	17.06	999	
51016	2	790815	046878	001.83	033.87	0643.8	03.72	03.66	12.6	000.27	006.57	0496.8	04.39	17.46	040	020
51016	3	791115	049553	002.29	039.59	0633.7	04.35	03.70	12.6	000.25	003.73	0514.2	05.67	17.03	999	999
51016	4	800130	051410	002.12	037.76	0628.6	04.49	03.43	12.8	000.22	003.59	0498.5	05.65	17.57	040	999
51017	0	790212	031431	000.98	013.45	0377.1	01.75	01.58	22.1	000.44	008.38	0248.9	02.98	33.65	999	
51017	1	790508	034393	000.92	011.70	0402.3	02.29	01.99	20.9	000.57	006.75	0268.7	04.12	31.55	999	
51017	2	790816	036170	000.86	009.74	0432.4	01.58	01.62	19.7	000.08	003.77	0302.6	01.91	28.72	999	
51017	3	791121	037693	000.92	009.52	0438.3	01.76	01.50	19.4	000.13	003.87	0311.3	02.17	27.91	999	
51017	4	800411	041510	000.89	010.31	0436.7	02.11	01.78	19.5	000.26	006.38	0277.6	02.95	30.74	999	888
51018	0	790212	041204	001.39	009.27	0372.9	01.25	01.12	22.6	000.06	000.70	0256.9	01.38	34.35	200	
51018	1	790508	043943	000.74	006.69	0338.6	01.24	01.10	25.2	000.02	000.51	0232.0	01.61	38.09	190	
51018	2	790828	049127	000.66	007.27	0329.8	01.39	01.38	25.8	000.04	001.26	0236.9	02.10	37.11	120	
51018	3	791121	052243	005.16	014.97	0326.0	01.49	01.26	24.2	000.04	000.92	0234.2	02.11	37.61	110	
51018	4	800421	057146	000.72	004.49	0356.2	01.64	01.41	24.3	000.03	000.56	0243.2	02.07	36.33	140	888
51019	0	790226	045655	000.84	007.84	0853.7	04.03	03.40	10.2	000.24	001.86	0618.1	05.00	14.26	210	
51019	1	790519	047353	000.92	006.02	0847.7	03.74	03.29	10.3	000.27	003.17	0584.8	04.80	15.01	170	
51019	2	790827	049175	000.85	006.59	0855.5	03.44	03.41	10.2	000.27	002.99	0618.1	05.05	14.22	120	030
51019	3	791121	050905	000.70	006.73	0847.6	03.73	03.14	10.3	000.19	002.22	0582.3	04.81	15.12	160	040
51020	0	790226	028273	000.94	011.23	0448.4	01.92	01.64	18.9	000.52	006.55	0259.4	02.96	32.68	030	
51020	1	790518	030023	000.96	010.02	0406.8	01.75	01.55	20.8	000.61	004.15	0254.6	03.28	33.71	070	
51020	2	790822	032928	000.83	010.37	0408.8	01.55	01.63	20.7	000.49	005.04	0254.3	02.59	33.62	020	
51020	3	791203	035072	000.78	011.52	0425.3	01.68	01.49	19.9	000.41	006.47	0271.7	02.90	31.32	010	
51020	4	800423	037795	000.73	009.13	0433.0	01.52	01.31	19.7	000.27	004.15	0273.9	02.40	31.53	050	888
51021	0	790305	029986	001.71	026.95	0445.6	05.52	05.36	18.0	000.92	011.02	0356.5	06.28	23.54	040	
51021	1	790602	032494	001.21	010.02	0476.9	05.71	05.36	17.9	000.67	004.05	0343.5	06.58	25.19	070	
51022	0	790305	056996	001.84	026.93	0715.2	02.09	02.00	11.6	001.43	032.86	0505.4	01.93	15.79	110	
51022	1	790608	059381	001.69	018.57	0713.0	02.16	02.07	11.9	001.07	021.14	0510.7	02.35	16.20	130	
51022	2	790906	060972	001.78	022.48	0708.4	01.85	01.97	11.8	001.34	022.12	0515.7	02.15	15.99	110	020
51022	3	791206	062218	001.64	017.47	0725.7	02.17	01.95	11.7	001.25	019.71	0520.2	02.29	15.97	130	040
51022	4	800528	063221	001.74	017.24	0730.4	02.31	02.22	11.6	001.29	013.64	0535.3	02.42	15.81	110	030

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51023	0	790306	036823	003.84	090.58	0534.2	01.10	01.07	12.9	002.94	096.78	0404.4	01.09	15.67	130	
51023	1	790602	039328	003.30	093.97	0566.2	01.17	01.10	12.2	002.58	109.39	0381.0	00.88	15.81	080	
51023	2	790905	041631	003.17	094.25	0561.4	00.98	01.03	12.3	002.28	102.44	0407.4	00.91	15.41	090	010
51023	3	791130	044388	003.78	099.40	0602.5	01.58	01.33	11.5	002.78	105.26	0442.3	01.48	14.38	110	010
51023	4	800415	047356	003.74	095.87	0598.8	01.63	01.38	11.6	002.61	098.69	0451.4	01.60	14.42	160	020
51024	0	790305	058546	001.39	010.49	0318.5	03.48	03.38	26.1	000.83	003.48	0211.7	05.05	40.35	999	
51024	1	790606	062814	001.81	006.63	0267.2	03.60	03.09	31.3	000.87	002.63	0207.7	05.73	41.33	999	
51024	2	790904	068680	001.90	007.57	0273.4	03.83	03.65	30.4	000.98	003.75	0208.2	05.70	40.83	999	
51024	3	791203	073823	002.83	008.88	0275.4	04.48	04.01	29.7	001.20	007.51	0209.1	05.30	39.47	020	
51024	4	800430	080719	002.09	006.94	0295.5	05.03	04.34	28.3	001.06	003.11	0234.2	06.69	36.58	060	888
51051	0	790306	026885	001.08	010.91	0350.2	03.19	03.00	23.9	000.66	004.65	0222.1	05.24	38.30	999	
51051	1	790504	027944	001.21	009.76	0328.6	02.92	02.83	25.5	000.61	003.32	0220.4	05.03	38.98	999	
51051	2	790906	030688	000.92	006.89	0315.2	02.72	02.85	27.0	000.71	002.76	0213.5	04.86	40.28	999	
51051	3	791130	031906	001.14	007.78	0304.7	03.19	02.67	27.7	000.72	003.48	0219.2	05.43	39.07	999	
51051	4	800421	034164	001.26	007.53	0289.6	04.95	04.26	29.0	000.68	003.94	0212.3	05.88	40.19	040	888
51052	0	790307	051148	001.99	022.69	0671.7	01.83	01.57	12.4	000.62	007.54	0520.6	02.46	16.59	080	
51052	1	790503	052168	001.79	022.57	0678.5	01.69	01.53	12.3	000.69	011.39	0529.3	02.18	16.14	090	
51052	2	790906	055716	002.17	031.59	0645.1	01.52	01.54	12.6	000.79	011.84	0504.9	02.21	16.86	040	010
51052	3	791205	057931	001.53	011.67	0661.4	02.02	01.75	13.0	000.21	001.74	0500.9	02.53	17.58	090	020
51052	4	800502	060807	000.74	011.54	0835.6	02.81	02.65	10.4	000.10	002.37	0618.6	03.01	14.24	170	050
51053	0	790313	053086	001.66	016.98	0667.0	02.10	01.72	12.7	000.03	000.04	0518.1	01.76	17.11	120	
51053	1	790512	055807	001.03	012.61	0644.2	02.19	01.92	13.3	000.03	000.03	0500.0	01.57	17.73	200	
51053	2	790920	059927	000.80	009.97	0679.6	01.82	01.77	12.7	000.03	000.06	0500.0	01.57	17.73	090	020
51053	3	791212	061670	001.22	015.26	0690.4	01.63	01.44	12.3	000.06	000.11	0530.4	01.32	16.71	150	080
51053	4	800423	065136	001.07	013.58	0640.4	02.39	02.10	13.3	000.06	000.01	0455.8	02.90	19.45	360	120
51054	0	790316	054053	001.24	014.74	0648.5	04.67	04.18	13.1	000.20	000.88	0475.0	04.80	18.59	140	
51054	1	790508	055236	001.95	028.65	0605.0	04.51	03.98	13.5	000.23	001.87	0466.6	04.98	18.86	020	
51054	R	790511	055282	001.45	018.79	0667.3	01.93	01.68	12.6	000.15	001.46	0480.6	02.35	18.35	060	
51054	C	790614	055670	001.54	019.56	0655.2	02.23	01.94	12.8	000.26	001.34	0501.5	02.80	17.58	080	
51054	2	790913	059492	000.98	008.32	0668.5	02.30	02.15	13.0	000.21	000.90	0493.9	02.96	17.88	050	020
51054	3	791219	062867	001.68	017.75	0695.6	02.75	02.53	12.2	000.31	002.70	0505.9	03.53	17.35	080	020
51054	4	800515	066475	001.08	008.82	0698.3	02.93	02.54	12.4	000.16	000.43	0503.2	03.96	17.58	100	030
51055	0	790315	021624	000.62	008.97	0678.1	02.68	02.48	12.8	000.08	000.03	0450.2	03.64	19.68	080	
51055	1	790517	022329	000.54	007.05	0694.1	02.67	02.34	12.5	000.07	000.03	0454.3	03.47	19.51	060	
51055	2	790917	023983	000.57	008.77	0710.4	02.37	02.61	12.2	000.08	000.05	0481.9	03.31	18.39	100	080
51055	3	800124	025750	001.50	033.40	0660.8	03.44	02.85	12.3	000.22	001.71	0465.3	05.33	18.92	999	999
51055	4	800516	027643	001.34	033.44	0678.7	03.35	03.08	12.1	000.16	001.83	0457.1	04.40	19.26	999	999
51056	0	790315	042565	000.47	007.54	0543.1	02.80	02.57	15.9	000.24	004.30	0289.5	04.40	29.85	040	
51056	1	790517	044214	000.53	007.64	0501.2	02.80	02.45	17.2	000.28	003.35	0286.5	04.63	30.30	020	
51056	2	790913	048192	001.48	014.20	0458.9	03.87	03.85	18.2	000.49	004.83	0299.2	06.42	28.76	050	
51056	3	791217	051199	000.79	011.14	0436.5	04.32	03.80	19.4	000.47	003.83	0294.9	07.51	29.32	999	
51056	4	800507	056428	000.76	011.06	0441.8	03.37	02.91	19.2	000.38	003.77	0289.7	06.27	29.88	050	888
51057	0	790314	067161	000.88	006.42	0896.6	02.23	02.01	09.8	000.33	002.75	0602.9	02.94	14.58	110	
51058	0	790406	043949	001.26	020.04	0358.5	01.70	01.50	22.5	000.61	017.84	0232.8	01.80	33.76	050	
51058	1	790605	043949	001.80	031.46	0341.0	01.49	01.41	22.4	000.64	009.85	0255.9	02.48	32.43	999	
51058	2	791001	043949	001.80	029.44	0350.0	01.59	01.51	22.1	000.64	007.89	0250.1	01.99	33.53	999	
51058	3	800103	043949	001.66	027.05	0377.8	02.09	01.79	20.8	000.76	009.39	0243.3	02.68	34.04	090	
51058	4	800528	043949	001.76	033.01	0340.9	01.63	01.47	22.3	000.73	008.63	0239.8	02.46	34.68	999	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	JDUM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51059	0	790322	070247	001.73	007.39	0610.2	03.10	02.64	14.1	000.85	001.77	0470.9	04.44	18.62	999	
51059	1	790518	072015	001.92	005.43	0594.4	01.97	01.77	14.6	001.05	002.13	0489.0	04.06	17.89	999	
51059	2	790924	075183	002.35	010.22	0612.8	02.09	02.15	13.9	000.99	001.97	0477.3	03.38	18.34	999	999
51059	3	791220	075593	001.80	006.62	0625.4	02.27	02.09	13.8	000.98	001.79	0468.1	03.30	18.71	999	999
51059	4	800610	075966	001.72	004.93	0607.6	02.61	02.53	14.3	000.87	001.54	0454.8	03.29	19.28	999	999
51060	0	790328	046319	001.90	023.84	0332.1	02.16	01.84	23.6	000.95	008.58	0237.7	02.55	34.89	060	
51060	1	790525	047376	001.65	016.31	0371.0	02.69	02.51	22.1	000.84	005.28	0280.9	03.17	30.39	070	
51060	2	790925	049735	001.92	028.53	0326.4	01.91	01.84	23.5	000.89	007.73	0240.1	02.22	34.77	999	
51060	3	791221	050947	002.60	027.84	0340.7	02.97	02.63	22.6	000.91	007.67	0237.8	02.56	35.09	999	
51061	0	790329	052901	001.42	010.01	0309.8	05.05	04.32	26.9	000.89	003.17	0227.7	06.78	37.66	999	
51062	0	790404	052810	002.56	019.45	0440.7	02.92	02.55	18.5	000.44	012.81	0294.6	04.47	28.05	030	
51062	1	790601	054074	000.97	017.79	0431.4	02.49	02.32	19.2	000.38	011.88	0276.4	03.95	29.93	050	
51062	2	791003	056979	000.98	018.32	0461.7	02.69	02.36	18.0	000.33	012.51	0282.0	04.27	29.30	020	
51062	3	800102	059265	001.01	021.06	0504.3	03.17	02.79	16.4	000.08	010.16	0314.6	03.45	26.81	030	
51062	4	800527	059744	001.02	017.73	0434.4	01.81	01.76	19.1	000.15	005.00	0297.8	01.90	28.97	030	888
51063	0	790330	060822	001.40	009.81	0846.3	02.79	02.39	10.2	000.30	001.73	0621.5	02.91	14.18	050	
51063	1	790525	061873	001.31	009.81	0739.3	03.95	03.72	11.7	000.36	001.85	0529.0	02.83	16.63	040	
51063	2	790927	065635	001.33	010.48	0743.1	05.11	04.94	11.6	000.43	002.27	0549.3	07.11	16.00	999	999
51063	3	791227	067341	002.80	017.90	0666.8	07.37	06.26	12.6	000.54	002.74	0520.3	10.52	16.85	999	
51064	0	790404	024104	001.48	010.29	0616.7	02.24	02.00	13.9	000.26	002.80	0493.6	02.72	17.78	110	
51064	1	790601	024895	001.10	008.00	0595.2	02.01	01.81	14.5	000.14	000.79	0452.7	02.30	19.52	090	
51064	2	791008	025942	001.11	009.93	0634.7	02.64	02.52	13.6	000.14	001.03	0500.0	03.08	17.66	080	030
51064	3	791228	026626	001.19	009.92	0597.7	02.57	02.15	14.4	000.16	001.26	0474.4	02.99	18.60	110	030
51064	4	800211	027036	001.64	013.28	0594.8	02.16	01.75	14.3	000.20	001.16	0464.3	02.54	19.00	080	050
51065	0	790403	061543	002.08	007.04	0296.7	03.57	03.02	28.2	000.93	002.90	0210.9	04.53	40.61	160	
51065	1	790531	065107	001.99	007.43	0294.5	03.88	03.42	28.4	000.91	004.08	0204.6	04.41	41.46	110	
51065	2	791001	070451	002.24	009.13	0285.8	03.67	03.53	28.9	000.91	004.00	0221.8	05.20	38.40	020	
51065	3	791228	074041	002.04	008.79	0283.7	04.07	03.42	29.2	000.95	003.84	0211.9	05.39	40.14	999	
51065	4	800521	080141	002.43	008.50	0288.6	03.80	04.04	28.6	001.04	003.30	0197.3	04.60	43.10	090	888
51066	0	790403	012806	001.10	003.27	0628.5	05.69	04.92	13.9	000.45	001.12	0520.4	05.25	16.94	999	
51066	1	790601	013388	000.84	003.85	0574.2	03.89	03.92	15.2	000.40	001.09	0451.5	04.21	19.51	020	
51066	2	791004	014617	001.10	005.59	0615.4	04.35	04.09	14.0	000.51	001.12	0496.4	04.52	17.75	030	999
51066	3	800104	015144	000.93	003.76	0596.5	04.44	03.80	14.7	000.44	000.90	0471.5	04.54	18.70	999	999
51066	4	800520	015901	001.05	004.84	0614.5	05.09	04.82	14.2	000.42	000.98	0472.5	04.87	18.66	030	999
51067	0	790404	061674	002.13	017.10	0382.9	02.35	02.02	21.3	000.67	002.40	0243.4	02.65	35.57	200	
51067	1	790605	063390	002.24	020.52	0359.6	01.84	01.72	22.2	000.59	003.05	0244.5	02.21	35.31	190	
51067	2	791002	065919	002.12	016.13	0368.3	01.62	01.56	22.2	000.65	003.47	0259.4	02.09	33.23	180	
51067	3	791228	068928	002.49	018.17	0381.7	02.07	01.75	21.2	000.78	003.62	0259.4	02.25	33.14	150	
51067	4	800523	074138	002.48	018.42	0373.9	02.33	02.14	21.6	000.79	003.72	0245.8	02.55	34.89	160	888
51068	0	790404	072421	000.88	019.28	0784.0	01.79	01.62	10.9	000.72	021.12	0535.6	02.46	15.53	120	
51068	1	790601	074122	000.78	017.41	0830.1	02.27	02.05	10.3	000.16	006.78	0585.8	02.29	14.86	100	
51068	2	791003	076996	000.98	020.13	0859.8	02.10	01.88	09.9	000.21	011.16	0657.5	02.22	13.13	080	010
51069	0	790404	053653	001.05	010.78	0403.7	01.44	01.26	20.9	000.16	003.43	0257.1	01.64	33.72	110	
51070	0	790405	024082	001.70	012.31	0322.1	02.09	01.88	25.6	000.60	007.48	0225.8	04.04	37.03	040	
51070	1	790601	026050	001.58	015.79	0312.9	01.75	01.69	25.9	000.58	007.15	0219.9	03.93	38.06	999	
51070	2	791022	031263	001.43	014.91	0357.0	01.36	01.26	23.0	000.33	005.75	0222.7	03.20	38.10	999	
51070	3	800107	032309	001.70	016.21	0296.3	03.15	02.55	27.1	000.60	007.09	0235.5	06.31	35.69	999	
51070	4	800523	034036	001.58	017.76	0326.3	02.25	01.94	24.7	000.46	005.80	0236.6	04.54	35.86	030	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51071	0	790405	069967	000.86	017.80	0855.3	03.85	03.47	10.0	000.18	003.55	0619.7	05.09	14.17	050	
51071	1	790606	071992	001.19	019.01	0820.1	03.16	02.93	10.4	000.18	003.78	0568.5	04.55	15.42	020	
51071	2	791002	074952	001.16	022.35	0866.9	02.93	02.79	09.8	000.22	004.64	0633.2	04.61	13.83	050	999
51071	3	800103	076998	001.31	027.47	0902.1	03.60	03.14	09.3	000.19	003.49	0648.8	05.56	13.54	999	999
51071	4	800215	077889	000.99	021.39	0848.7	03.42	02.75	10.0	000.22	009.72	0625.2	04.33	13.83	020	010
51073	0	790410	045167	002.03	037.66	0687.4	02.63	02.33	11.8	000.11	002.12	0527.9	03.76	16.68	080	
51073	1	790609	046963	001.07	021.22	0654.4	02.42	02.18	12.8	000.10	001.83	0500.5	03.97	17.61	090	
51101	0	790308	033039	001.01	012.29	0417.4	01.24	01.05	20.2	000.14	001.03	0305.1	01.46	28.87	070	
51101	1	790406	033544	000.70	009.42	0419.7	01.50	01.30	20.3	000.04	001.52	0286.5	01.42	30.68	080	
51101	2	790905	037277	000.87	009.46	0420.5	01.48	01.53	20.2	000.08	001.83	0315.6	01.53	27.82	999	
51101	3	791204	038968	000.80	008.77	0438.4	01.63	01.54	19.5	000.08	001.54	0335.3	01.75	26.24	040	
51101	4	800417	042831	000.85	009.62	0445.0	01.67	01.49	19.2	000.10	001.57	0326.0	01.78	26.97	040	888
51102	0	7[illegible]0312	074379	002.50	038.97	0404.8	02.02	01.73	18.7	001.38	018.06	0295.3	02.89	27.03	140	
51102	1	7[illegible]0411	075257	002.73	042.24	0403.9	02.01	01.75	18.5	001.15	015.36	0296.6	02.89	27.34	100	
51102	2	7[illegible]0914	083920	002.80	039.52	0399.9	01.84	01.99	18.8	001.39	019.89	0285.9	02.46	27.58	130	
51103	0	790315	048452	001.22	011.28	0608.0	05.81	05.27	14.1	000.18	000.59	0469.6	07.22	18.82	110	
51103	1	790421	049640	000.90	005.78	0599.0	06.32	05.45	14.5	000.11	000.03	0456.2	07.51	19.42	180	
51103	2	790917	053042	001.37	010.41	0579.4	04.89	04.98	14.8	000.12	000.23	0444.7	05.88	19.91	110	030
51103	3	791211	054[illegible]0	000.97	006.73	0614.3	06.41	05.40	14.1	000.12	000.06	0475.9	08.04	18.62	999	999
51103	4	800421	056453	003.76	023.15	0582.0	06.54	05.72	14.1	000.33	001.22	0447.6	07.15	19.68	999	999
51104	0	790316	087637	002.52	050.01	0618.2	01.87	01.63	12.6	001.88	050.00	0454.2	02.46	16.46	170	
51104	1	790419	089046	002.26	042.45	0619.0	02.09	01.77	12.8	001.51	039.50	0451.2	02.59	17.12	100	
51104	2	790917	094676	003.16	064.35	0572.0	01.82	01.73	13.0	001.65	040.80	0423.5	02.59	17.99	020	999
51104	3	800123	096918	003.49	051.68	0644.7	02.54	02.10	12.0	002.34	048.96	0472.0	03.07	15.94	999	999
51104	4	800207	097202	003.73	061.08	0617.4	02.07	01.76	12.2	002.32	051.68	0453.0	02.50	16.37	030	999
51105	0	790316	063958	002.50	020.60	0328.2	01.37	01.20	24.1	000.54	013.09	0239.8	02.61	33.84	220	
51105	1	790417	064657	002.44	018.53	0314.3	01.45	01.24	25.3	000.60	014.56	0235.0	02.37	34.14	220	
51105	2	790918	069843	003.53	012.95	0337.5	01.21	01.20	24.0	000.46	000.98	0267.3	02.28	31.71	270	
51105	3	791213	072409	001.97	021.55	0329.9	01.87	01.69	24.0	000.70	015.25	0260.6	04.09	30.92	999	
51106	0	790316	051911	002.41	026.93	0297.2	01.57	01.37	25.5	000.65	010.84	0219.6	03.26	37.16	020	
51106	1	790419	052585	001.68	018.11	0307.9	01.81	01.52	26.0	000.53	007.52	0224.5	03.44	37.25	170	
51106	2	790918	056886	001.47	022.60	0293.8	01.[illegible]	01.57	26.6	000.52	012.36	0206.1	02.74	39.03	999	
51106	3	791217	059458	001.55	027.45	0294.5	01.[illegible]	01.41	25.9	000.54	011.48	0213.1	03.19	38.09	999	
51106	4	800508	064676	002.02	023.98	0284.8	01.88	01.67	27.0	000.67	007.30	0215.5	04.24	38.70	100	888
51107	0	790320	063195	002.40	043.59	0596.6	02.60	02.23	13.2	000.93	020.04	0478.3	03.53	17.30	100	
51107	1	790420	064551	001.68	030.99	0589.2	02.12	01.81	13.6	000.69	016.99	0485.3	03.31	17.25	180	
51107	2	790920	071616	001.44	024.02	0632.5	02.20	02.18	13.1	000.56	012.64	0503.3	03.04	16.89	130	060
51107	3	791221	075717	001.65	026.59	0601.2	02.23	02.03	13.7	000.51	012.85	0475.2	03.10	17.84	150	050
51107	4	800207	077625	001.44	022.66	0592.1	02.40	02.06	14.0	000.44	010.74	0475.8	03.18	17.95	150	040
51108	0	790322	061591	000.84	015.98	0466.5	05.24	04.41	17.9	000.44	006.82	0321.6	08.93	26.58	020	
51108	1	790424	062248	000.78	017.00	0465.4	04.02	03.63	17.9	000.39	007.30	0293.4	06.10	28.97	999	
51108	2	790918	064210	000.94	017.29	0492.9	03.95	04.34	17.0	000.88	008.19	0331.1	07.30	25.57	020	
51108	3	791118	066350	000.76	018.66	0466.8	03.83	03.54	17.8	000.35	008.03	0308.7	06.15	27.51	999	
51108	4	800513	068994	000.76	014.15	0455.4	03.93	03.45	18.5	000.42	005.45	0305.0	06.72	28.16	999	888
51109	0	790326	047502	001.16	019.27	0532.0	04.16	03.73	15.7	000.39	005.95	0404.9	05.44	21.35	999	
51109	1	790427	048396	001.14	008.34	0525.0	04.75	04.50	16.4	000.36	004.28	0387.9	05.04	22.41	999	

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51110	0	790327	068934	000.63	003.83	0479.8	03.78	03.44	18.2	000.08	000.19	0356.1	02.52	24.86	180	
51110	1	790427	069894	000.81	005.15	0529.1	05.99	05.70	16.4	000.08	000.15	0361.9	03.22	24.47	150	
51110	2	790925	074780	000.89	003.80	0470.5	04.37	04.58	18.5	000.10	000.27	0343.0	05.91	25.80	040	010
51110	3	800122	078818	000.81	008.86	0496.5	07.61	06.05	17.3	000.10	000.14	0379.5	09.34	23.33	160	010
51110	4	800515	082204	000.63	008.51	0490.2	05.65	05.37	17.5	000.07	000.19	0358.3	07.08	24.72	210	030
51111	0	790420	044428	000.98	010.06	0701.5	01.96	01.68	12.3	000.13	001.49	0539.7	03.12	16.35	250	
51111	1	790517	044821	000.82	006.10	0706.8	02.50	02.17	12.3	000.11	000.39	0563.1	04.31	15.72	140	
51111	2	791025	049331	001.82	020.28	0673.8	01.66	01.51	12.5	000.31	004.48	0510.0	02.40	17.12	040	010
51111	3	800129	050157	001.46	015.22	0676.7	01.86	01.42	12.6	000.20	003.74	0506.4	02.05	17.29	160	040
51111	4	800425	050630	001.51	014.22	0698.1	01.69	01.64	12.2	000.23	003.85	0554.7	01.92	15.79	110	040
51112	0	790411	069310	000.81	004.04	0683.5	08.11	07.15	12.8	000.17	000.50	0519.9	08.29	17.01	090	
51112	1	790511	070087	000.73	001.66	0664.7	07.30	06.41	13.2	000.15	000.15	0474.5	07.32	18.66	100	
51112	2	791011	073284	000.88	005.88	0674.3	06.81	06.44	12.9	000.15	000.26	0518.0	07.41	17.09	110	050
51112	3	800117	075330	000.80	005.10	0650.1	06.98	05.58	13.4	000.15	000.23	0512.9	08.28	17.26	070	030
51112	4	800604	078003	000.84	005.22	0661.0	07.52	06.53	13.2	000.13	000.36	0512.6	07.86	17.27	070	030
51113	0	790412	042634	001.25	005.13	0311.4	02.22	02.03	27.4	000.06	001.63	0211.4	02.82	41.41	080	
51113	1	790509	043029	000.61	003.70	0285.0	01.82	01.59	30.3	000.08	001.66	0195.9	01.16	44.61	110	
51113	2	791018	046377	001.17	005.75	0320.7	02.05	01.93	26.6	000.10	002.04	0221.7	03.13	39.38	120	
51113	3	800115	047683	000.60	005.30	0345.9	02.77	02.37	24.9	000.07	001.78	0225.4	03.55	38.83	999	
51113	4	800602	049084	026.30	008.99	0295.7	02.66	02.39	22.6	016.72	003.80	0207.5	03.56	33.27	999	888
51114	0	790412	024526	001.48	011.83	0721.4	04.13	03.70	11.9	000.39	003.20	0513.0	03.78	17.08	150	
51114	1	790511	025029	001.20	007.90	0692.3	03.69	03.24	12.5	000.33	002.54	0563.0	05.29	15.61	140	
51114	2	791011	030084	001.20	008.09	0740.6	04.14	03.89	11.7	000.39	002.10	0523.0	04.49	16.81	180	090
51114	3	800108	032589	001.04	010.01	0718.2	04.12	03.38	12.0	000.31	002.48	0536.3	05.03	16.39	220	100
51114	4	800530	036640	001.13	007.75	0709.2	04.32	04.20	12.2	000.35	002.90	0516.6	05.09	16.98	200	090
51115	0	790413	029815	000.63	002.80	0555.0	08.14	07.08	15.8	000.21	000.20	0441.0	08.48	20.07	020	
51115	1	790511	030183	000.62	001.70	0558.4	08.74	07.63	15.8	000.20	000.16	0427.3	08.39	20.71	080	
51115	2	791015	032929	000.48	001.18	0535.9	06.78	06.46	16.4	000.19	000.18	0414.5	06.55	21.35	110	050
51115	3	800115	033774	000.56	001.27	0546.7	07.27	06.20	16.1	000.22	000.23	0440.0	07.51	20.11	070	999
51115	4	800530	035350	000.59	001.56	0540.0	08.03	07.76	16.3	000.19	000.12	0391.7	06.56	22.60	100	020
51116	0	790417	097088	003.55	005.14	0762.3	05.51	04.66	11.3	001.11	002.78	0539.0	07.29	16.21	370	
51116	1	790510	097804	003.22	005.05	0773.5	05.33	04.57	11.2	000.98	002.97	0543.2	07.23	16.10	420	
51116	2	791022	104271	007.90	006.47	0746.6	04.95	04.63	11.3	001.45	002.42	0505.0	05.49	17.27	330	120
51116	3	800121	107188	007.65	006.36	0738.8	05.74	04.56	11.5	001.14	002.18	0526.9	09.21	16.61	510	160
51116	4	800502	109943	005.48	005.77	0769.9	05.53	04.93	11.1	001.22	002.17	0551.7	09.48	15.87	470	140
51117	0	790414	055205	000.75	005.48	0622.5	04.04	03.46	14.0	000.08	000.36	0471.0	04.75	18.79	510	
51117	1	790530	056039	000.73	007.25	0631.0	03.72	03.28	13.8	000.08	000.35	0459.9	04.80	19.25	520	
51117	2	791012	058104	000.64	008.94	0648.9	03.35	03.14	13.3	000.09	001.45	0462.1	03.88	19.09	250	070
51117	3	800116	058204	000.77	010.93	0660.6	03.50	02.98	13.0	000.09	001.56	0500.7	04.32	17.62	310	070
51117	4	800606	058698	000.61	009.54	0648.2	01.45	01.36	13.3	000.07	001.11	0482.2	01.79	18.32	200	080
51118	0	790418	026730	002.57	063.47	0618.9	04.95	04.22	12.2	000.64	012.10	0469.3	05.87	18.09	999	
51118	1	790529	026817	000.63	006.79	0682.9	05.85	05.00	12.7	000.12	000.66	0466.7	07.67	18.94	999	
51118	2	791024	027601	002.40	060.87	0610.2	04.72	04.47	12.4	000.47	009.18	0465.9	05.95	18.41	130	060
51118	4	800519	028151	002.91	054.70	0599.7	05.00	04.79	12.8	000.57	008.62	0450.2	06.44	19.05	999	999
51119	0	790417	041686	000.31	001.19	0570.0	05.58	04.73	15.5	000.11	000.07	0416.9	05.84	21.25	060	
51119	1	790515	042240	000.40	001.12	0560.6	05.55	05.24	15.7	000.12	000.09	0409.3	06.24	21.64	040	
51119	2	791018	046090	000.49	002.67	0555.5	04.21	03.94	14.7	000.17	000.21	0420.7	05.56	21.04	999	999
51119	3	800121	048100	000.53	004.88	0589.6	06.20	05.09	14.8	000.13	000.16	0406.8	06.44	21.77	200	040
51119	4	800424	049622	002.83	059.03	0490.1	03.41	02.96	15.0	001.45	021.00	0381.1	05.59	21.18	060	010

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NU	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51120	0	790418	047820	002.15	006.86	0275.0	04.80	04.08	30.3	000.85	001.87	0210.8	05.98	40.97	999	
51120	1	790517	048875	002.08	005.39	0282.9	04.47	03.92	29.8	000.78	001.59	0212.8	06.15	40.73	999	
51120	2	791018	060192	001.55	010.56	0299.0	03.15	02.93	27.7	000.77	003.22	0214.2	04.87	40.01	999	
51120	3	800122	065159	001.63	010.06	0320.0	04.00	03.35	26.0	000.72	002.57	0217.9	05.91	39.54	999	
51120	4	800424	071523	002.12	009.21	0302.4	02.61	02.27	27.4	000.70	002.78	0210.7	04.55	40.81	999	888
51121	0	790419	027215	000.68	015.21	0579.3	01.89	01.62	14.6	000.18	004.60	0452.2	02.60	19.28	240	
51121	1	790516	027721	000.79	011.79	0560.6	01.65	01.47	15.2	000.13	002.74	0426.4	02.34	20.57	190	
51121	2	791024	031500	002.83	050.69	0574.1	01.83	01.75	13.4	000.49	014.36	0459.9	02.49	18.32	060	010
51121	3	800129	033232	002.55	044.93	0589.2	02.86	02.17	13.3	000.31	007.49	0462.0	03.70	18.68	999	999
51121	4	800429	034827	002.64	054.20	0567.3	02.93	02.56	13.4	000.24	005.47	0429.2	02.81	20.22	010	999
51122	0	790418	087564	000.56	012.10	0523.9	02.04	01.74	09.4	000.24	001.52	0631.0	02.05	13.99	090	
51122	1	790516	088439	000.68	012.42	0515.5	01.91	01.67	09.5	000.19	002.62	0624.4	01.94	14.10	010	
51122	2	791030	094474	001.57	027.34	1087.4	02.70	02.43	07.8	000.17	004.38	0710.7	03.75	12.35	050	020
51122	3	800124	096866	000.93	014.73	0533.9	02.08	01.75	09.2	000.20	003.30	0650.5	02.41	13.51	070	020
51122	4	800422	100553	000.98	023.86	0907.6	01.93	01.69	09.4	000.31	006.38	0609.7	01.89	14.29	050	010
51123	0	790419	040318	000.78	010.91	0379.3	02.53	02.13	22.2	000.45	004.21	0245.2	03.58	35.02	999	
51123	1	790517	040900	000.76	011.97	0373.6	02.11	01.83	22.5	000.38	005.88	0239.8	03.36	35.44	050	
51123	2	791026	043133	000.95	012.57	0392.0	02.50	02.25	21.4	000.37	006.23	0248.8	03.43	34.14	020	
51123	4	800424	045835	000.93	012.19	0385.7	02.64	02.33	21.7	000.35	004.65	0253.1	03.97	33.91	050	888
51124	0	790419	061164	001.16	013.72	0537.7	02.20	01.86	15.8	000.54	009.95	0405.4	01.68	20.98	080	
51124	1	790515	061731	001.65	031.96	0581.9	01.77	01.60	13.9	000.55	011.85	0429.8	01.58	19.70	080	
51124	R	790518	061775	001.11	017.81	0561.4	01.58	01.40	15.0	000.33	008.38	0455.2	01.41	18.89	060	
51124	C	790619	062368	001.08	014.82	0586.7	01.77	01.58	14.5	000.25	004.31	0514.6	01.81	16.98	060	
51124	2	791023	065884	001.40	025.62	0543.0	01.44	01.36	15.1	001.02	022.86	0464.0	01.32	17.62	050	020
51124	3	800124	068293	002.05	046.90	0500.1	01.36	01.16	15.3	001.16	025.89	0436.0	01.41	18.46	999	
51124	4	800424	069937	001.97	039.25	0506.6	01.33	01.18	15.4	000.79	018.12	0440.5	01.37	18.81	999	999
51125	0	790420	033231	000.81	005.17	0664.7	03.52	03.01	13.1	000.38	001.33	0506.5	03.70	17.40	090	
51125	1	790519	034258	000.77	004.96	0655.1	03.05	02.67	13.3	000.36	000.96	0471.3	03.30	18.71	050	
51125	2	791024	037445	000.92	007.03	0679.2	03.19	03.03	12.8	000.48	002.11	0514.3	03.56	17.08	080	030
51125	4	800425	041128	001.65	010.41	0649.4	03.72	03.38	13.2	000.56	001.85	0462.3	05.12	18.99	999	999
51126	0	790420	033839	001.04	008.44	0821.5	02.66	02.26	10.6	000.43	003.12	0604.1	03.28	14.53	090	
51126	1	790605	035198	000.97	006.26	0813.5	02.26	02.14	10.7	000.39	003.49	0578.0	02.58	15.17	130	
51126	2	791107	039237	001.02	012.77	0843.2	02.52	02.18	10.2	000.40	004.23	0601.1	02.84	14.56	090	040
51126	3	800125	040674	001.05	010.29	0808.3	02.40	02.06	10.7	000.59	005.90	0571.5	02.80	15.22	090	030
51126	4	800506	042815	001.04	008.27	0785.1	04.39	03.97	11.1	000.47	004.08	0565.3	06.14	15.47	090	030
51127	0	790425	042395	001.88	006.38	0295.2	03.23	02.86	28.5	000.78	001.95	0218.6	04.59	39.56	999	
51127	1	790521	042858	001.74	006.87	0287.9	03.25	03.17	29.1	000.72	002.17	0211.1	04.53	40.91	060	
51128	0	790421	042776	001.71	009.00	0659.2	02.24	01.93	13.1	001.08	002.79	0447.2	02.77	19.49	490	
51128	1	790519	043629	002.11	012.17	0715.0	02.47	02.15	12.0	001.06	002.92	0468.5	02.99	18.61	600	
51128	2	791023	048861	001.80	010.25	0696.5	02.25	02.11	12.3	001.02	002.85	0451.5	02.91	19.31	300	080
51128	4	800501	053371	001.90	010.65	0691.3	01.95	01.93	12.4	000.90	002.89	0469.7	02.49	18.59	440	140
51129	0	790426	024683	001.02	002.00	0613.9	03.94	03.49	14.3	000.60	001.53	0469.6	04.66	18.71	170	
51129	1	790521	024883	001.17	002.47	0624.8	03.66	03.67	14.0	000.48	001.76	0442.7	03.67	19.84	150	
51129	2	791106	028384	000.94	003.05	0610.7	03.79	03.31	14.3	000.49	000.84	0450.7	04.25	19.55	190	050
51129	4	800430	030984	001.09	001.30	0598.3	04.28	03.76	14.7	000.60	001.35	0424.9	04.81	20.67	130	030
51130	0	790427	043132	000.97	013.67	0390.4	02.84	02.65	21.4	000.46	006.71	0250.7	04.05	33.76	999	
51130	1	790518	043599	001.08	012.48	0381.3	03.04	02.72	21.9	000.69	004.77	0270.3	06.08	31.67	999	
51130	2	791106	047377	001.54	016.96	0344.4	03.39	02.96	23.6	000.51	005.18	0240.5	04.22	35.44	020	
51130	4	800501	050582	002.09	022.90	0382.3	03.56	03.20	20.9	000.82	006.84	0284.5	05.30	29.78	020	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	DDDM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
51131	0	790430	021529	002.54	027.13	0336.0	03.06	02.87	22.9	001.29	016.20	0216.9	03.52	35.99	040	
51131	1	790529	021529	002.58	023.23	0298.5	02.36	02.03	25.8	001.13	009.04	0198.7	03.25	40.96	060	
51131	2	791102	021529	002.22	024.08	0332.0	02.39	02.05	23.5	001.21	012.55	0225.5	03.00	35.61	120	
51131	4	800430	021530	002.00	021.50	0358.2	01.73	01.51	22.3	000.72	005.19	0270.4	01.56	31.58	999	888
51132	0	790501	055820	001.57	014.09	0317.7	02.91	02.60	25.7	000.72	002.47	0225.0	05.08	38.37	999	
51132	1	790605	056235	001.47	013.11	0306.6	02.52	02.41	26.7	000.66	002.11	0214.6	04.68	40.30	999	
51132	2	791031	059051	001.76	015.83	0314.4	03.33	02.94	25.7	000.77	003.00	0227.3	05.52	37.82	999	
51133	0	790502	043474	001.30	006.18	0378.7	02.00	01.73	22.6	000.57	002.18	0238.4	02.23	36.39	410	
51133	1	790531	043997	001.06	005.13	0360.5	01.62	01.47	23.8	000.45	001.64	0222.0	01.94	39.25	510	
51133	2	791119	049438	001.36	011.37	0385.7	01.91	01.67	21.7	000.54	002.23	0257.5	02.18	33.76	999	
51133	4	800507	052744	001.09	012.73	0379.5	02.26	01.97	22.0	000.35	001.96	0264.5	02.46	33.01	040	888
51134	0	790502	033007	001.11	007.75	0715.4	02.23	01.93	12.1	000.52	001.82	0486.4	02.67	18.07	999	
51134	1	790529	033508	001.14	007.84	0707.1	02.30	01.96	12.3	000.52	002.11	0456.6	02.83	19.21	999	
51134	2	791102	037180	001.34	009.16	0717.0	02.02	01.74	12.1	000.57	002.53	0491.7	02.77	17.82	999	999
51134	4	800501	039690	001.72	013.60	0643.3	04.03	03.85	13.2	000.81	003.30	0484.9	05.77	18.00	999	999
51135	0	790505	087829	001.14	013.95	0767.6	03.16	02.97	11.2	000.13	000.60	0571.5	03.36	15.48	120	
51135	1	790602	088758	001.30	015.64	0797.8	02.75	02.82	10.7	000.59	013.51	0553.6	02.38	15.38	120	
51135	2	791113	094246	001.34	012.66	0750.4	09.05	07.62	11.4	000.19	000.59	0514.7	08.11	17.18	070	050
51135	4	800512	099968	002.25	017.13	0768.1	03.63	03.33	11.1	000.48	002.19	0574.8	04.06	15.30	100	030
61000	0	790207	081604	001.16	017.87	0562.0	02.64	02.29	14.9	000.26	008.97	0462.3	04.07	18.58	300	
61000	1	790502	085960	001.69	023.01	0525.2	04.09	03.65	15.6	000.37	006.83	0406.7	04.84	21.18	110	
61000	2	790822	089034	002.08	027.49	0519.6	03.68	03.62	15.6	000.58	011.76	0395.8	04.20	21.31	110	010
61000	3	791114	091477	002.74	033.98	0532.8	04.22	03.49	14.9	000.55	008.94	0403.7	04.80	21.14	110	999
61000	4	800221	093644	003.21	036.94	0546.4	04.36	03.63	14.4	000.79	012.37	0419.5	05.03	20.09	999	999
61001	0	790215	039892	000.68	005.80	0427.2	02.10	01.82	20.2	000.26	000.38	0296.0	02.67	29.81	090	
61001	1	790510	043167	000.75	005.00	0403.0	03.65	03.12	21.5	000.37	000.64	0284.9	04.88	30.89	999	
61002	0	790222	039392	003.22	032.53	0525.6	02.38	02.06	15.1	000.32	003.68	0420.7	03.15	20.75	060	
61002	1	790522	041685	001.27	013.52	0540.8	02.76	02.58	15.7	000.13	000.71	0411.3	03.91	21.48	140	
61002	2	790904	043531	001.26	019.19	0554.2	02.10	02.11	15.1	000.22	004.31	0417.2	02.68	20.88	120	010
61002	3	791129	045649	002.81	028.70	0541.9	02.57	02.16	14.9	000.37	005.34	0424.0	03.13	20.45	100	999
61002	4	800222	047319	002.06	025.21	0524.9	02.46	02.07	15.5	000.31	005.17	0419.1	02.94	20.71	080	999
61003	0	790223	069248	001.99	022.30	0659.7	06.24	05.49	12.6	001.11	017.55	0435.8	06.18	18.99	120	
61003	1	790518	073643	001.26	015.29	0612.0	05.60	04.91	13.9	000.54	009.87	0408.3	05.63	20.84	150	
61003	2	790821	078434	001.34	016.88	0567.1	02.77	02.84	14.8	000.79	013.16	0416.7	03.45	20.16	240	050
61003	3	791120	081847	001.49	014.59	0581.8	03.60	03.05	14.6	000.64	008.53	0405.2	03.42	21.08	170	020
61003	4	800415	088410	001.44	017.27	0614.3	04.17	03.56	13.7	000.61	009.03	0413.4	04.09	20.65	100	030
61004	0	790301	026767	000.71	004.77	0548.6	03.65	03.12	15.9	000.10	000.24	0434.2	05.57	20.39	070	
61004	1	790613	029098	000.74	002.94	0549.8	03.25	02.78	15.9	000.10	000.17	0430.7	04.80	20.56	070	
61004	2	790831	031562	000.76	004.01	0534.7	02.96	02.93	16.3	000.12	000.76	0415.5	03.98	21.26	140	030
61004	3	791128	034231	000.80	006.27	0550.8	03.85	03.20	15.7	000.13	000.77	0428.1	04.88	20.64	120	020
61004	4	800204	035920	001.11	008.34	0556.0	03.75	03.16	15.5	000.15	001.09	0407.9	04.21	21.62	060	010
61005	0	790302	018618	002.28	017.49	0472.3	03.16	02.64	17.5	000.68	007.65	0365.3	02.32	23.37	040	
61005	1	790531	019694	002.17	025.58	0466.2	02.59	02.44	17.3	000.48	004.17	0359.3	02.41	24.14	060	
61005	2	790905	021357	002.72	028.13	0482.4	02.36	02.34	16.6	000.69	006.16	0380.8	02.05	22.58	040	999
61005	3	791211	022204	002.64	025.38	0475.8	02.95	02.48	16.9	000.60	004.95	0383.3	02.76	22.56	999	999
61005	4	800131	023000	003.87	043.95	0452.7	02.93	02.26	16.6	001.18	014.14	0370.9	02.93	22.35	020	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NU	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
61006	0	790302	020782	001.08	008.37	0591.0	02.73	02.27	14.6	000.31	000.32	0461.3	02.98	19.16	130	
61006	1	790530	021674	001.65	013.73	0561.4	02.44	02.16	15.1	000.34	000.39	0437.3	02.60	20.20	110	
61006	2	790831	025577	000.92	007.46	0592.8	01.81	01.76	14.6	000.26	000.34	0463.7	02.21	19.07	140	040
61006	3	791129	028287	001.36	012.52	0590.7	02.05	01.71	14.4	000.28	000.28	0467.4	02.96	18.92	180	070
61006	4	800225	030329	003.95	050.39	0575.8	01.68	01.41	13.3	000.36	001.46	0483.0	02.32	18.23	999	999
61051	0	790308	055941	001.85	021.37	0534.0	02.15	01.83	15.5	000.24	002.31	0401.0	02.61	21.87	060	
61051	1	790505	059890	002.16	031.96	0526.4	02.36	02.16	15.2	000.33	004.48	0406.0	02.97	21.42	030	
61051	2	790907	070157	000.83	002.37	0547.8	02.21	02.41	16.0	000.13	000.25	0396.5	02.75	22.32	280	080
61051	3	791207	073061	002.38	030.91	0530.7	02.58	02.30	15.1	000.23	001.89	0419.6	03.38	20.95	020	999
61051	4	800417	078600	002.24	026.12	0539.2	02.85	02.54	15.1	000.29	002.64	0387.8	03.22	22.57	040	999
61052	0	790316	054001	000.96	010.43	0563.8	02.70	02.39	15.2	000.29	005.27	0450.7	03.47	19.28	310	
61052	1	790512	056080	000.78	005.91	0538.0	02.49	02.19	16.1	000.22	001.85	0407.7	03.29	21.56	200	
61052	2	790921	061780	000.91	007.20	0523.6	02.26	02.09	16.5	000.20	002.08	0409.7	03.19	21.44	150	060
61052	3	791217	063899	001.42	014.55	0591.8	02.61	02.36	14.3	000.36	007.01	0427.2	03.10	20.18	050	999
61052	4	800422	068973	000.81	007.54	0552.7	03.43	03.01	15.6	000.18	001.66	0416.4	03.93	21.13	070	060
61053	0	790307	027074	001.87	013.61	0581.1	07.31	06.41	14.6	000.23	000.11	0448.8	10.31	19.72	060	
61053	1	790510	028122	001.13	009.28	0585.5	07.87	06.73	14.7	000.19	000.04	0435.7	09.67	20.32	070	
61053	2	790912	030601	001.22	006.29	0569.7	06.96	06.64	15.1	000.24	000.05	0442.4	08.76	20.01	060	999
61053	3	800117	032034	001.04	005.79	0566.0	07.63	06.17	15.2	000.22	000.04	0430.3	09.11	20.57	050	999
61053	4	800312	032800	002.13	014.11	0568.2	06.87	05.84	14.9	000.22	000.05	0437.6	08.91	20.23	040	999
61054	0	790307	038564	002.90	034.86	0512.5	02.78	02.38	15.4	000.62	008.09	0396.8	03.25	21.55	040	
61054	1	790510	040735	003.35	037.51	0510.5	02.44	02.08	15.3	000.68	008.19	0401.6	02.90	21.29	050	
61054	2	790906	043935	004.08	058.55	0483.9	02.39	02.34	15.1	001.77	022.55	0397.3	03.61	20.23	999	999
61054	3	791204	045851	004.48	052.82	0497.9	02.81	02.51	14.9	001.78	019.26	0390.1	03.63	20.82	020	999
61055	0	790321	026024	002.48	027.84	0568.5	03.36	02.82	14.3	000.41	005.89	0443.2	04.26	19.55	170	
61055	1	790523	026940	001.82	022.93	0569.0	03.38	03.22	14.5	000.19	001.99	0422.1	04.37	20.82	180	
61055	2	790919	030827	002.27	024.55	0546.7	03.26	03.19	15.0	000.25	003.16	0393.9	03.99	22.19	130	020
61055	3	791227	032194	002.84	030.01	0551.2	03.25	02.79	14.6	000.22	002.33	0431.1	04.51	20.36	320	120
61055	4	800513	035216	002.48	026.69	0554.6	03.56	03.28	14.7	000.22	002.38	0408.2	03.99	21.49	160	020
61056	0	790326	035249	001.09	003.29	0381.2	03.28	02.91	22.8	000.31	000.43	0272.9	05.04	32.30	100	
61056	1	790601	035666	001.30	001.89	0351.1	02.74	02.65	24.8	000.33	000.28	0253.5	04.11	34.78	140	
61056	2	791005	036629	001.08	003.08	0398.8	02.78	02.68	21.8	000.27	000.41	0289.6	04.48	30.46	030	
61056	3	791227	037883	000.78	002.51	0376.6	03.24	02.73	23.2	000.22	000.22	0269.8	04.65	32.75	050	
61056	4	800519	038675	001.18	003.47	0392.0	03.11	02.81	22.1	000.21	000.23	0283.5	04.80	31.16	110	888
61057	0	790328	020278	000.92	005.50	0587.1	01.76	01.50	14.8	000.38	000.17	0433.0	01.96	20.41	999	
61057	1	790524	021404	001.03	006.22	0596.9	01.79	01.71	14.5	000.33	000.15	0426.7	02.05	20.72	999	
61057	2	790927	023025	000.91	005.39	0611.6	01.45	01.37	14.2	000.37	000.17	0466.4	03.05	18.96	999	999
61057	3	800117	024650	005.16	099.93	0435.4	04.21	03.48	14.6	002.03	031.33	0389.5	06.67	19.92	999	999
61057	4	800227	025541	005.14	095.61	0442.0	03.85	03.40	14.6	002.33	037.86	0387.5	05.93	19.52	999	999
61058	0	790330	029320	001.47	010.61	0477.9	03.69	03.17	17.8	000.23	000.40	0369.5	03.51	23.91	080	
61058	1	790529	031025	001.35	010.29	0454.9	03.38	02.92	18.7	000.25	000.76	0381.6	03.62	23.12	090	
61058	2	790926	034043	001.45	008.63	0479.7	03.34	03.17	17.8	000.25	000.57	0410.9	03.62	21.50	150	020
61058	3	791221	036266	001.45	009.95	0469.8	03.58	03.31	18.1	000.27	000.53	0378.0	03.50	23.36	090	999
61058	4	800521	040901	001.70	015.80	0504.8	03.18	03.13	16.6	000.31	001.24	0409.9	03.57	21.48	080	999
61059	0	790404	018823	001.09	051.39	0752.0	00.94	00.86	10.6	000.29	024.92	0600.0	01.31	13.85	010	
61059	1	790601	019731	001.20	051.29	0711.9	00.82	00.84	11.1	000.24	022.08	0549.6	01.56	15.16	999	
61059	2	790928	021650	003.46	047.14	0720.9	01.12	01.06	11.0	000.74	022.11	0574.6	02.33	14.50	060	999
61059	3	800102	022942	000.92	052.53	0801.2	00.92	00.81	10.0	000.18	020.73	0585.4	01.59	14.34	999	999
61059	4	800307	023761	001.07	059.13	0813.7	00.87	00.74	09.7	000.20	023.03	0604.7	01.34	13.82	030	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	JDOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
61060	0	790406	037140	000.88	005.86	0752.1	01.61	01.40	11.6	000.13	000.55	0565.2	01.16	15.66	120	
61060	1	790606	038554	000.86	004.53	0724.7	01.59	01.38	12.1	000.14	000.50	0519.2	01.26	17.04	160	
61060	2	791010	042157	000.66	008.68	0745.9	01.87	01.62	11.6	000.09	000.55	0564.9	01.31	15.67	160	080
61060	3	800103	043460	000.63	008.20	0728.7	01.50	01.30	11.9	000.17	000.31	0537.3	01.29	16.47	120	070
61060	4	800528	045789	000.58	009.80	0748.9	01.62	01.46	11.6	000.15	000.62	0537.4	01.21	16.46	210	050
61061	0	790406	018587	000.66	001.29	0558.5	08.15	07.11	15.8	000.18	000.10	0466.0	10.38	19.00	999	
61061	1	790602	019436	000.85	001.83	0563.8	07.74	08.00	15.6	000.17	000.08	0440.9	10.74	20.08	999	
61061	2	791002	021708	001.05	002.55	0568.1	06.61	06.28	15.4	000.23	000.35	0464.3	10.77	19.05	999	999
61061	3	800107	022870	001.15	004.40	0565.2	10.33	08.42	15.4	000.18	000.23	0468.0	12.04	18.91	999	999
61061	4	800408	024043	000.89	004.85	0574.5	07.59	07.15	15.2	000.22	000.40	0430.3	10.49	20.55	999	999
61062	0	790412	066873	001.61	007.30	0632.6	04.95	04.33	13.7	001.00	002.08	0475.5	05.84	18.40	080	
61062	1	790609	069523	001.55	006.94	0617.3	04.54	04.18	14.0	000.91	001.82	0441.3	04.65	19.84	130	
61062	2	791009	075755	001.46	008.47	0620.6	04.52	04.11	13.9	000.99	002.06	0459.2	05.63	19.05	080	010
61101	0	790309	014848	000.87	003.54	0491.1	02.20	01.83	17.8	000.11	000.42	0304.5	02.05	29.03	999	
61101	1	790411	015766	000.58	003.12	0485.5	01.96	01.71	18.0	000.10	000.43	0312.8	02.45	28.26	999	
61101	2	790911	019337	000.65	003.61	0454.6	01.90	01.74	19.2	000.48	000.47	0307.6	02.13	28.62	999	
61101	3	791211	022940	000.83	004.72	0470.3	02.30	01.95	18.5	000.80	002.66	0365.1	02.77	23.85	999	
61101	4	800410	023658	000.83	004.68	0525.5	02.08	01.74	16.6	000.96	001.92	0386.0	03.25	22.62	999	888
61102	0	790320	012461	000.47	001.58	0451.6	02.78	02.32	19.5	000.21	000.14	0325.3	04.00	27.18	999	
61102	1	790426	013437	000.48	002.25	0424.9	03.08	02.79	20.6	000.20	000.14	0311.8	04.53	28.36	999	
61102	2	790918	017443	000.49	001.43	0433.6	03.26	03.68	20.3	000.21	000.20	0322.9	04.59	27.38	030	999
61102	3	791218	018754	000.52	001.76	0434.0	03.41	03.19	20.2	000.24	000.27	0312.4	05.03	28.28	999	999
61102	4	800509	019703	000.60	003.51	0430.1	03.86	03.71	20.3	000.24	000.22	0319.5	05.62	27.66	020	999
61103	0	790323	029895	000.75	002.05	0555.1	03.37	02.83	15.8	000.25	000.09	0436.8	03.11	20.26	070	
61103	1	790426	031312	000.99	002.36	0537.9	02.99	02.60	15.3	000.23	000.07	0416.8	02.72	21.23	040	
61103	2	790924	036538	001.13	002.64	0545.1	02.70	02.59	16.0	000.26	000.12	0450.1	02.66	19.66	010	999
61103	3	791220	039760	000.91	001.54	0564.6	03.08	02.84	15.6	000.32	000.16	0429.7	02.60	20.58	040	999
61103	4	800514	044789	001.03	002.24	0553.7	03.15	02.91	15.8	000.34	000.12	0417.1	03.36	21.20	010	999
61104	0	790411	015527	001.04	006.28	0631.4	01.65	01.43	13.8	000.32	002.32	0463.4	01.53	18.95	310	
61104	1	790505	015885	000.95	013.62	0638.2	01.41	01.30	13.4	000.35	002.75	0478.3	01.49	18.33	260	
61104	2	791009	017799	000.92	015.99	0650.7	01.39	01.28	13.1	000.31	002.25	0492.7	01.69	17.84	350	090
61104	3	800108	018704	001.13	013.79	0652.9	01.67	01.39	13.1	000.48	005.52	0480.9	01.54	18.06	110	020
61104	4	800530	020751	002.02	039.43	0641.7	01.30	01.16	12.5	000.33	003.21	0508.3	01.63	17.24	999	999
61105	0	790413	017702	000.44	007.28	0329.9	02.25	01.95	25.9	000.38	008.59	0249.8	01.90	33.53	120	
61105	1	790510	017969	000.38	006.52	0315.7	02.32	02.04	27.1	000.23	005.71	0240.9	02.08	35.39	300	
61105	2	791012	019305	000.40	007.16	0329.2	02.35	02.21	26.0	000.26	007.34	0251.3	01.94	33.63	280	100
61105	3	800114	020088	000.62	011.79	0326.1	02.37	02.03	25.6	000.77	015.47	0257.0	02.46	31.25	130	090
61105	4	800502	021133	000.42	007.52	0328.9	02.43	02.14	25.9	000.29	008.49	0247.6	02.46	33.87	230	110
61106	0	790418	039731	002.16	004.20	0697.2	02.54	02.20	12.5	000.69	000.44	0537.7	02.73	16.40	230	
61106	1	790512	041001	002.37	005.48	0672.9	02.53	02.20	12.9	000.76	000.39	0509.6	02.73	17.30	210	
61106	2	791024	046043	004.24	013.98	0679.7	02.27	02.14	12.4	001.42	000.88	0535.2	02.64	16.39	250	100
61106	3	800121	047988	006.18	014.78	0692.6	02.42	01.92	12.1	000.76	000.64	0537.7	02.44	16.39	260	040
61106	4	800221	048789	004.23	009.74	0682.9	02.34	01.96	12.5	000.70	000.66	0527.9	02.42	16.69	260	100
61107	0	790424	035889	001.09	011.07	0554.3	03.90	03.55	15.4	000.15	001.65	0430.6	04.72	20.45	110	
61107	1	790522	036303	001.10	011.97	0554.3	03.63	03.40	15.4	000.17	002.72	0423.1	04.69	20.72	080	
61107	2	791030	040516	002.34	031.20	0524.5	03.62	03.24	15.3	000.37	004.82	0418.0	04.00	20.78	030	999
61107	4	800501	047625	006.68	065.60	0495.4	02.87	02.69	14.3	000.85	008.96	0395.2	03.51	21.53	999	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71000	0	790123	021030	000.81	006.02	0260.2	02.11	01.78	32.6	000.19	002.07	0186.9	03.20	46.49	110	
71000	1	790504	022650	001.28	006.90	0262.8	01.83	01.68	31.9	000.20	002.30	0205.4	03.62	42.29	999	
71000	2	790814	023544	001.53	008.46	0247.8	01.77	01.77	33.3	000.17	002.36	0212.0	03.37	41.00	030	
71000	3	791102	024848	001.71	009.43	0252.1	02.05	01.78	32.6	000.15	002.39	0226.2	03.90	38.48	090	
71000	4	800305	025888	002.73	012.93	0272.0	02.26	01.90	29.5	000.14	002.04	0230.7	03.80	37.85	999	888
71001	0	790123	031241	000.63	006.64	0608.4	02.05	01.72	14.2	000.08	000.11	0420.0	03.82	21.10	110	
71001	1	790425	034836	000.66	013.48	0681.5	02.61	02.24	12.6	000.08	000.25	0487.8	04.62	18.15	130	
71001	2	790823	040160	000.71	010.29	0648.5	02.00	01.93	13.3	000.14	000.46	0452.4	03.67	19.55	150	060
71001	3	791101	042897	000.74	008.73	0645.3	02.77	02.39	13.4	000.13	000.11	0442.1	04.51	20.03	110	040
71001	4	800311	048032	011.06	013.29	0743.1	02.90	02.41	11.1	005.87	000.97	0520.9	05.11	16.39	180	060
71002	0	790122	020533	000.98	007.07	0297.3	02.39	02.03	28.5	000.55	001.57	0202.8	04.08	42.84	020	
71002	1	790425	023086	000.87	006.55	0300.4	01.98	01.77	28.3	000.52	002.13	0211.3	03.40	41.01	999	
71002	2	790809	026173	000.90	008.07	0311.8	01.95	01.89	27.1	000.55	003.02	0218.6	03.54	39.40	010	
71002	3	791105	028982	001.00	009.98	0313.9	01.91	01.76	26.7	000.67	003.05	0224.9	03.70	38.25	999	
71002	4	800307	032133	000.86	008.44	0303.4	02.06	01.80	27.8	000.58	002.85	0205.6	03.21	41.84	999	888
71003	0	790125	033243	000.67	019.72	0413.1	02.58	02.13	19.9	000.24	011.29	0251.4	03.08	32.86	010	
71003	1	790426	036389	000.59	020.15	0399.3	02.25	02.01	20.5	000.29	011.25	0237.7	02.86	34.60	999	
71003	2	790823	039860	000.64	020.41	0392.5	01.91	01.96	20.8	000.30	012.93	0230.0	02.42	35.29	999	
71003	3	791105	041874	000.70	020.38	0402.7	02.34	02.10	20.3	000.33	012.43	0242.1	02.99	33.76	020	
71003	4	800320	045798	008.66	018.82	0377.0	04.01	03.31	20.4	002.20	010.87	0254.8	04.69	31.81	040	999
71004	0	790125	032119	001.36	015.07	0684.3	08.03	06.77	12.5	000.34	000.75	0517.6	10.38	17.06	010	
71004	1	790501	034603	002.98	004.17	0749.9	00.90	00.79	11.6	000.73	000.81	0533.6	00.85	16.51	999	
71004	2	790829	037398	003.14	003.21	0762.4	00.84	00.86	11.4	000.75	000.52	0567.1	00.93	15.55	999	999
71004	3	791108	039046	002.41	003.12	0752.4	01.13	00.98	11.6	000.59	000.39	0520.7	01.09	16.95	030	999
71004	4	800319	042039	002.44	010.61	0802.2	01.05	00.89	10.7	000.48	000.70	0590.5	01.36	14.95	999	999
71005	0	790129	039077	001.02	009.16	0601.5	02.02	01.62	14.3	000.13	000.06	0405.3	02.10	21.85	030	
71005	1	790501	045270	001.53	014.50	0522.6	01.67	01.48	16.1	000.20	001.34	0363.3	02.52	24.23	060	
71005	2	790814	052385	001.25	002.74	0623.0	01.13	01.12	14.0	000.23	000.14	0415.3	01.39	21.31	700	340
71005	3	791102	058169	000.88	009.62	0572.5	02.99	02.58	15.0	000.11	000.48	0404.0	03.27	21.89	050	020
71005	4	800314	059913	001.08	012.07	0577.9	02.94	02.47	14.8	000.14	000.76	0405.3	03.11	21.79	060	030
71006	0	790131	038976	001.10	007.48	0559.5	05.03	04.00	15.4	000.21	000.03	0373.2	04.23	23.72	090	
71006	1	790518	045925	000.85	007.08	0549.1	05.08	04.61	15.8	000.20	000.04	0366.9	04.70	24.12	110	
71006	2	790823	051442	001.01	006.79	0584.5	04.56	04.54	14.8	000.18	000.07	0399.9	03.97	22.14	220	020
71006	3	791120	055338	000.98	009.06	0594.4	05.54	04.71	14.5	000.21	000.10	0397.3	05.10	22.27	130	999
71006	4	800418	059307	000.87	007.76	0616.3	05.99	05.19	14.0	000.19	000.06	0414.5	05.36	21.36	160	999
71007	0	790201	016568	001.09	011.24	0735.7	04.36	03.48	11.7	000.12	000.02	0432.9	05.39	20.47	080	
71007	1	790426	017892	000.45	002.98	0733.3	04.09	03.57	12.0	000.13	000.02	0447.7	05.79	19.79	040	
71007	2	790813	019482	000.60	008.26	0737.5	03.69	03.51	11.8	000.11	000.03	0440.9	05.03	20.10	050	000
71007	3	791109	021488	000.99	010.46	0737.6	03.80	03.33	11.7	000.14	000.03	0448.8	05.34	19.74	020	010
71007	4	800327	026627	000.42	004.05	0721.8	04.18	03.52	12.2	000.15	000.05	0432.5	05.50	20.48	040	010
71008	0	790201	009569	001.71	007.10	0346.7	02.29	01.83	24.4	001.42	026.63	0210.0	02.44	34.59	999	
71008	1	790508	010845	001.72	024.02	0305.5	01.78	01.57	25.4	001.06	012.22	0221.2	03.09	36.38	999	
71008	2	790810	012254	001.64	024.92	0333.2	01.73	01.70	23.5	000.96	008.78	0230.3	02.84	35.88	999	
71008	3	791115	014703	001.69	020.59	0342.0	02.27	01.90	23.4	001.08	010.27	0236.2	03.69	34.67	050	
71008	4	800208	015404	001.66	018.05	0340.0	02.73	02.26	23.7	000.89	005.04	0235.6	04.13	36.01	999	888
71009	0	790202	023989	000.55	005.39	0515.2	01.95	01.57	16.9	000.11	001.99	0386.1	01.72	22.76	110	
71009	1	790510	026490	000.42	003.43	0517.9	01.87	01.59	16.9	000.06	000.14	0360.7	01.43	24.56	190	
71009	2	790815	029882	000.39	003.21	0510.9	01.67	01.65	17.1	000.08	000.59	0358.9	01.35	24.63	130	020
71009	3	791204	033005	000.53	005.11	0527.6	01.88	01.71	16.5	000.08	000.32	0380.9	01.69	23.24	180	050
71009	4	800319	034077	000.66	005.56	0518.6	01.68	01.49	16.7	000.08	000.72	0378.1	01.42	23.37	170	030

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71010	0	790206	012982	000.52	016.64	0431.0	02.34	02.13	19.3	000.16	009.85	0272.7	04.00	30.72	999	
71010	1	790502	014408	000.57	015.21	0438.1	02.75	02.44	19.1	000.11	008.69	0276.2	04.08	30.56	040	
71010	2	790815	016279	000.49	015.49	0426.7	01.96	01.94	19.6	000.07	008.37	0276.6	02.88	30.59	999	
71010	3	791113	017503	000.53	015.75	0435.7	02.60	02.20	19.2	000.08	008.69	0288.1	03.88	29.36	999	
71010	4	800326	019758	000.46	014.93	0465.3	02.17	01.84	18.1	000.04	005.83	0316.7	03.31	27.20	010	888
71011	0	790206	016025	000.75	003.70	0393.6	01.43	01.30	22.1	000.12	000.09	0253.7	01.98	34.89	999	
71011	1	790509	018714	000.74	004.20	0350.5	02.14	01.87	24.7	000.11	000.06	0238.0	02.91	37.18	999	
71011	2	790815	021001	000.82	005.56	0397.1	01.85	02.01	21.7	000.15	000.10	0260.7	02.84	33.94	999	
71011	3	791116	022800	001.08	007.11	0369.8	02.44	02.13	23.1	000.15	000.43	0256.0	04.63	34.49	999	
71011	4	800411	025952	001.22	006.64	0393.2	03.74	03.15	21.8	000.13	000.15	0282.5	05.39	31.31	999	888
71012	0	790207	029170	001.06	017.07	0521.4	01.28	01.10	16.1	000.57	014.75	0368.1	01.01	22.56	160	
71012	1	790503	033981	001.13	015.60	0534.5	01.31	01.17	15.8	000.52	017.13	0376.4	00.92	21.90	170	
71012	2	790814	038903	000.90	018.17	0518.6	01.06	01.07	16.1	000.31	010.44	0374.6	00.79	22.62	210	070
71012	3	791113	041544	000.93	017.89	0517.6	01.35	01.14	16.2	000.30	009.53	0377.0	01.15	22.57	190	060
71012	4	800414	046513	001.03	015.99	0535.9	01.58	01.41	15.7	000.43	002.33	0376.2	01.32	23.27	190	
71013	0	790207	029813	000.94	008.21	0503.2	01.57	01.41	17.1	000.26	000.55	0378.6	01.31	23.32	090	
71013	1	790503	032242	000.81	007.55	0529.5	01.86	01.68	16.3	000.13	000.45	0385.3	01.48	22.95	090	
71013	2	790814	035641	002.21	007.13	0532.7	02.14	02.14	16.1	000.69	000.11	0406.8	02.14	21.67	100	050
71013	3	791114	039553	005.86	011.15	0622.5	02.37	01.98	13.5	001.23	000.36	0437.7	02.59	20.06	080	020
71013	4	800321	044490	004.45	009.48	0557.6	03.08	02.67	15.1	000.86	000.51	0388.2	02.82	22.64	130	030
71014	0	790208	009224	000.91	017.43	0335.8	01.49	01.35	24.2	000.30	007.34	0233.8	02.39	36.01	170	
71014	1	790515	010042	000.62	009.42	0322.6	01.60	01.43	26.1	000.30	005.76	0227.3	02.42	37.37	200	
71014	2	790816	011308	000.79	014.03	0326.5	01.42	01.45	25.3	000.39	005.15	0229.6	02.54	37.11	250	
71014	3	791115	012248	001.12	015.77	0332.1	01.76	01.49	24.6	000.34	005.30	0237.7	03.03	35.88	200	
71014	4	800404	013657	000.73	016.03	0340.9	01.44	01.25	24.1	000.23	007.55	0235.7	02.27	35.72	190	888
71015	0	790212	027959	001.16	015.49	0567.6	01.47	01.32	14.9	000.17	001.04	0406.9	02.55	21.68	110	
71015	1	790508	030845	000.96	009.28	0539.3	01.57	01.38	15.9	000.16	000.83	0378.5	02.32	23.32	070	
71015	2	790905	035832	000.78	008.38	0580.9	01.29	01.25	14.9	000.14	000.64	0390.8	01.78	22.61	230	100
71015	3	791119	038381	002.25	029.52	0547.2	01.56	01.37	14.8	000.35	002.01	0404.2	02.60	21.71	999	999
71015	4	800131	045125	002.40	037.40	0522.0	01.80	01.43	15.1	000.36	002.42	0391.5	02.76	22.37	999	999
71016	0	790213	017815	000.97	017.03	0418.9	01.50	01.31	19.8	000.17	009.26	0255.3	02.02	32.80	100	
71016	1	790509	020949	000.79	013.46	0404.0	01.49	01.27	20.7	000.16	006.35	0233.6	01.89	36.34	030	
71016	2	790824	025081	001.46	016.27	0425.3	01.30	01.36	19.5	000.22	010.39	0250.9	02.13	33.10	040	
71016	3	791129	027653	001.40	014.29	0400.5	01.74	01.43	20.8	000.33	007.88	0245.6	02.68	34.23	130	
71016	4	800417	030824	000.79	015.82	0426.6	01.60	01.42	19.5	000.17	009.51	0230.1	02.35	36.10	999	888
71017	0	790221	018292	000.56	001.48	0417.8	01.28	01.09	21.0	000.11	000.09	0269.1	01.59	32.90	040	
71017	1	790522	021450	000.66	002.27	0390.7	01.12	01.05	22.4	000.10	000.09	0253.1	01.35	34.97	999	
71017	2	790813	023019	000.79	003.64	0382.0	01.15	01.09	22.7	000.14	000.22	0254.3	01.60	34.77	999	
71017	3	791120	024840	000.86	004.84	0393.8	01.10	00.94	21.9	000.12	000.24	0255.2	01.51	34.64	999	
71017	4	800415	027488	001.11	005.91	0410.0	01.57	01.36	21.0	000.16	000.32	0275.7	02.39	32.05	080	888
71018	0	790214	014790	000.38	012.40	0453.4	02.31	01.95	18.7	000.04	006.17	0284.3	03.10	30.15	999	
71018	1	790511	016364	000.37	012.12	0453.3	01.53	01.35	18.7	000.09	007.46	0268.1	02.09	31.66	999	
71018	2	790822	017796	000.39	012.04	0467.1	01.41	01.42	18.2	000.10	006.17	0275.6	01.94	31.05	999	
71018	3	791126	019762	000.39	012.66	0464.0	01.74	01.52	18.3	000.08	006.96	0278.6	02.13	30.60	999	
71018	4	800408	021766	000.41	013.11	0444.8	01.59	01.45	19.0	000.08	007.61	0267.4	01.98	31.72	999	888
71019	0	790213	009481	000.56	007.07	0415.3	01.51	01.34	20.7	000.07	000.94	0331.0	01.39	26.66	200	
71019	1	790510	010434	000.64	011.20	0484.3	02.14	01.83	17.6	000.06	000.70	0351.2	02.27	25.16	220	
71019	2	790809	012226	000.85	009.17	0468.9	02.24	02.21	18.2	000.21	001.91	0347.7	01.73	25.24	230	140
71019	3	791120	013016	001.45	022.92	0485.0	01.93	01.67	16.9	000.13	000.95	0369.0	02.09	23.91	230	020
71019	4	800130	013552	001.41	022.11	0465.0	02.72	02.08	17.6	000.12	001.08	0361.6	03.24	24.39	160	020

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71020	0	790215	013911	000.69	010.72	0329.9	01.90	01.61	25.4	000.57	010.77	0255.3	01.89	32.37	110	
71020	1	790517	016379	000.39	005.60	0331.0	02.12	01.88	26.0	000.08	000.28	0258.1	02.33	34.26	200	
71021	0	790216	003060	000.67	006.92	0611.7	01.97	01.72	14.2	000.06	000.42	0444.1	02.46	19.93	240	
71022	0	790223	030106	001.07	014.58	0337.5	01.91	01.65	24.4	000.38	009.91	0246.1	02.88	33.73	210	
71022	1	790524	033993	001.11	011.19	0320.9	01.87	01.74	25.9	000.51	005.90	0233.8	03.38	36.25	120	
71022	2	790828	038735	001.55	017.89	0317.7	01.29	01.27	25.3	000.44	009.18	0234.8	01.93	35.38	999	
71022	3	800123	045530	001.59	016.12	0331.0	01.48	01.18	24.5	000.42	006.91	0234.6	02.41	35.93	190	
71022	4	800521	050464	001.68	015.80	0333.6	01.29	01.36	24.4	000.50	006.83	0228.2	01.98	36.88	190	888
71051	0	790215	036181	001.59	005.05	0286.5	01.71	01.53	29.6	000.17	002.23	0221.5	03.20	39.32	120	
71051	1	790419	038738	000.91	005.62	0282.4	01.83	01.56	30.2	000.07	002.04	0213.3	03.53	40.93	100	
71051	2	790831	045763	001.21	004.91	0260.3	01.49	01.50	32.6	000.11	001.60	0222.1	02.13	39.42	070	
71051	3	791120	049971	003.95	014.54	0257.5	01.33	01.15	30.3	000.12	001.87	0229.1	01.96	38.16	110	
71051	4	800414	056119	001.22	004.75	0265.6	02.36	02.11	32.0	000.13	001.94	0213.1	03.60	40.94	160	888
71052	0	790302	020883	000.94	013.56	0425.0	01.10	00.92	19.7	000.12	000.67	0293.0	01.64	30.12	999	
71052	1	790522	022259	000.77	009.82	0417.5	01.07	01.00	20.4	000.08	000.61	0286.1	01.45	30.86	999	
71053	0	790307	033292	000.99	005.93	0298.5	01.92	01.62	28.5	000.15	002.06	0222.1	04.69	39.26	170	
71053	1	790509	035924	000.74	004.74	0295.2	01.50	01.34	34.8	000.11	001.50	0201.4	02.97	43.45	130	
71053	2	790904	042764	000.98	006.78	0265.5	01.61	01.54	31.8	000.12	001.43	0218.4	02.76	40.13	100	
71053	3	791130	044705	001.81	007.94	0258.0	01.71	01.46	32.1	000.10	001.34	0222.8	02.59	39.38	120	
71053	4	800416	049224	000.82	006.92	0298.3	01.31	01.17	28.4	000.10	000.81	0233.8	01.83	37.68	160	888
71054	0	790309	015671	000.82	010.78	0462.3	01.85	01.54	18.4	000.10	000.54	0337.0	01.75	26.22	210	
71054	1	790508	018214	000.81	013.36	0506.3	01.90	01.67	16.7	000.07	000.39	0347.3	01.57	25.47	240	
71054	2	790[illegible]0	024741	000.89	011.92	0474.0	01.42	01.37	17.9	000.08	000.34	0331.7	01.32	26.67	210	030
71054	3	791210	026813	000.77	012.58	0492.3	01.70	01.46	17.2	000.08	000.22	0361.3	01.46	24.50	400	060
71054	4	800417	030114	000.65	011.80	0494.2	01.82	01.60	17.2	000.09	000.59	0365.8	02.06	24.16	220	050
71055	0	790308	009922	000.62	006.99	0641.7	01.33	01.13	13.5	000.03	000.29	0437.2	01.22	20.26	140	
71055	1	790502	010834	000.61	005.00	0663.3	01.31	01.14	13.2	000.03	000.12	0453.4	01.15	19.55	140	
71055	2	790910	013631	000.58	008.08	0654.7	01.25	01.18	13.3	000.04	000.70	0481.2	01.40	18.38	080	020
71055	3	791206	015223	001.20	012.93	0572.1	01.41	01.24	14.9	000.08	000.29	0419.4	01.52	21.11	030	999
71055	4	800421	017324	000.93	009.87	0603.9	02.07	01.80	14.2	000.06	000.20	0415.8	01.72	21.30	080	010
71056	0	790314	019658	000.67	013.62	0512.1	01.54	01.41	16.6	000.09	001.79	0357.7	02.10	24.58	350	
71056	1	790515	021380	000.59	010.36	0502.8	01.45	01.36	17.0	000.08	000.69	0338.8	01.75	26.08	240	
71056	2	791025	025459	000.95	017.45	0522.6	01.68	01.56	16.0	000.13	001.89	0360.6	02.05	24.35	300	070
71056	3	791212	027466	000.97	010.50	0504.4	01.70	01.50	16.9	000.12	000.42	0332.5	02.19	26.59	350	120
71056	4	800610	027791	000.99	009.78	0479.0	03.86	03.78	17.6	000.34	002.06	0340.8	04.59	25.69	240	020
71057	0	790314	022348	000.41	001.65	0606.1	01.72	01.58	14.5	000.06	000.40	0438.1	01.85	20.20	140	
71058	0	790314	028976	000.96	008.27	0560.7	02.25	02.01	15.4	000.07	000.16	0433.0	02.35	20.46	070	
71058	1	790511	030202	000.59	004.38	0581.0	02.16	01.88	15.0	000.03	000.09	0416.3	02.19	21.29	090	
71058	2	790911	033334	001.05	010.04	0549.7	01.86	01.86	15.6	000.11	000.65	0423.4	02.29	20.88	050	010
71058	3	791218	036275	001.44	010.40	0533.4	01.85	01.74	15.6	000.12	001.12	0421.9	02.34	20.91	050	999
71058	4	800505	039483	001.15	012.76	0558.6	02.05	01.87	15.2	000.08	000.47	0432.5	02.46	20.46	999	999
71059	0	790316	039556	000.43	001.71	0700.1	02.01	01.80	12.6	000.12	000.02	0487.7	01.75	18.17	040	
71059	1	790516	043136	000.41	002.19	0678.3	01.89	01.69	13.0	000.14	000.01	0464.7	01.54	19.06	040	
71059	2	790926	052097	000.82	005.35	0717.8	01.44	01.38	12.2	000.16	000.09	0509.3	01.62	17.39	050	999
71059	3	791213	057512	000.96	005.66	0710.0	01.87	01.65	12.3	000.15	000.13	0499.0	01.53	17.75	050	999
71059	4	800522	065039	001.14	003.17	0767.6	01.00	00.90	11.4	000.48	000.12	0544.7	00.79	16.23	050	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71060	0	790330	022713	002.14	047.71	0397.0	02.82	02.41	18.5	000.99	017.87	0299.2	03.60	26.84	040	
71061	0	790323	018612	002.11	046.61	0656.5	05.07	04.24	12.0	000.29	002.34	0478.9	08.53	18.34	080	
71061	1	790518	019008	002.19	047.30	0660.5	05.44	04.82	12.0	000.32	001.97	0463.6	08.23	18.96	070	
71061	2	790925	021159	002.59	055.59	0670.6	06.02	05.97	11.6	000.52	003.12	0501.7	07.64	17.45	100	010
71061	3	800104	021960	002.34	041.21	0667.1	06.64	05.77	12.0	000.47	001.36	0476.1	08.22	18.49	070	030
71061	4	800516	023242	002.69	056.26	0665.7	05.65	04.91	11.6	000.44	001.70	0483.1	08.34	18.20	050	030
71062	0	790322	020007	000.68	009.99	0500.1	02.08	01.75	17.1	000.15	000.63	0323.0	02.97	27.33	300	
71062	1	790519	021264	000.84	010.07	0485.5	02.11	01.97	17.6	000.24	001.30	0313.1	02.97	28.07	270	
71062	2	790919	025397	000.58	005.95	0515.8	02.42	02.41	16.8	000.24	000.61	0302.9	03.49	29.11	260	
71062	3	800104	028247	000.64	005.46	0486.6	02.93	02.53	17.8	000.24	001.12	0277.3	03.52	31.69	300	
71062	4	800527	031596	001.45	021.11	0460.4	02.05	01.86	17.8	000.80	009.13	0298.6	02.34	28.11	060	888
71063	0	790328	028354	001.72	013.15	0546.7	01.83	01.56	15.5	000.15	000.57	0376.8	01.74	23.45	120	
71063	1	790606	031193	000.90	006.02	0537.8	01.70	01.52	16.1	000.07	000.21	0365.8	01.56	24.21	150	
71064	0	790329	016747	000.62	009.42	0630.8	03.13	02.70	13.7	000.07	000.11	0452.9	05.26	19.56	100	
71064	1	790523	017787	000.69	010.73	0625.1	03.43	03.15	13.8	000.08	000.10	0451.1	05.76	19.64	130	
71064	2	790926	020900	000.60	004.57	0598.4	05.35	05.05	14.6	000.08	000.04	0461.6	06.64	19.20	120	040
71064	3	791228	022736	000.59	004.73	0558.9	05.60	04.69	15.6	000.08	000.06	0420.5	06.38	21.07	120	030
71064	4	800514	025689	000.63	006.41	0544.1	04.91	04.58	15.9	000.07	000.08	0404.6	05.61	21.90	090	030
71065	0	790329	029049	001.49	013.55	0592.8	02.79	02.40	14.3	000.18	000.52	0449.5	03.18	19.67	050	
71065	1	790524	032021	001.46	012.56	0577.3	02.40	02.27	14.7	000.24	000.63	0422.6	02.60	20.90	040	
71065	2	791004	040700	003.17	048.88	0570.7	02.70	02.56	13.5	000.74	008.67	0435.2	03.60	19.66	040	999
71065	4	800516	045278	002.90	038.93	0577.8	03.12	02.90	13.7	000.60	004.28	0427.9	04.14	20.31	999	999
71066	0	790403	026417	000.86	007.03	0582.0	05.00	04.24	14.9	000.13	000.02	0420.6	05.83	21.06	240	
71066	1	790608	029026	000.75	007.48	0571.9	04.22	03.89	15.1	000.15	000.04	0364.1	03.34	24.32	090	
71066	2	791108	035664	000.73	009.94	0612.8	05.52	04.76	14.1	000.17	000.05	0427.9	05.90	20.69	210	999
71066	4	800506	044266	001.14	008.42	0567.2	04.57	04.20	15.2	000.25	000.03	0398.2	04.46	22.22	130	999
71067	0	790403	019038	001.03	005.96	0319.7	02.16	01.85	26.7	000.82	001.98	0218.6	04.19	39.54	060	
71067	1	790606	020746	000.90	007.49	0333.5	01.71	01.46	25.5	000.78	002.68	0224.6	03.60	38.34	999	
71067	2	791008	024702	001.93	007.24	0361.2	01.81	01.75	23.4	000.86	003.02	0240.7	03.63	35.73	220	
71067	3	791227	027280	000.63	007.85	0380.2	01.33	01.12	22.5	000.53	003.45	0230.6	02.45	37.31	050	
71067	4	800519	031969	000.91	008.38	0336.3	01.96	01.75	25.2	000.78	004.33	0222.5	03.57	38.26	070	888
71068	0	790403	018538	000.99	005.93	0412.8	01.81	01.56	20.9	000.18	000.13	0267.6	03.60	33.04	999	
71068	1	790530	020233	001.05	008.28	0389.8	01.63	01.45	21.8	000.17	000.31	0252.4	04.22	35.00	999	
71068	2	791003	024210	001.31	010.28	0398.5	01.60	01.43	21.2	000.22	000.41	0263.5	03.48	33.48	999	
71068	3	791228	026750	001.47	008.14	0414.5	01.96	01.65	20.5	000.34	000.32	0259.6	03.62	33.95	999	
71068	4	800527	032581	002.37	021.10	0371.8	01.92	01.85	21.5	000.57	002.59	0252.2	04.35	34.35	020	888
71069	0	790403	028662	001.18	013.60	0283.6	01.70	01.47	28.7	000.34	001.98	0207.6	02.69	41.86	999	
71069	1	790531	030941	000.88	006.22	0274.5	01.80	01.76	30.9	000.32	000.67	0192.6	02.36	45.55	999	
71069	2	791001	036511	000.94	009.22	0281.1	01.77	01.68	29.7	000.32	000.65	0212.2	02.57	41.39	999	
71069	3	791231	040141	000.93	005.84	0266.2	02.10	01.88	31.9	000.38	000.46	0193.0	02.65	45.50	999	
71069	4	800523	045732	000.90	007.82	0268.3	02.35	02.20	31.3	000.33	000.60	0179.4	02.86	48.88	999	888
71070	0	790407	025736	001.32	005.95	0319.8	01.94	01.67	25.6	000.90	003.74	0228.4	03.46	37.40	110	
71070	1	790606	027217	001.61	007.49	0320.0	02.77	02.38	26.3	001.31	004.08	0229.8	04.94	36.89	160	
71070	2	791003	033762	001.71	014.10	0330.7	02.22	02.06	24.7	001.28	007.14	0242.4	03.85	34.42	060	
71070	3	800117	036704	001.90	021.73	0342.9	02.73	02.29	23.1	001.52	022.42	0221.3	02.97	33.93	999	
71070	4	800528	039498	001.48	008.99	0334.6	03.10	02.97	25.1	000.87	003.86	0229.8	04.15	37.16	060	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71071	0	790406	018867	000.52	013.07	0448.1	01.93	01.67	18.9	000.07	005.41	0296.9	02.26	29.01	999	
71071	1	790605	020120	000.57	012.73	0428.0	01.43	01.36	19.7	000.11	006.12	0266.9	02.06	32.04	100	
71071	2	791004	023188	000.74	011.81	0455.8	01.75	01.65	18.6	000.14	006.04	0295.0	02.27	29.08	080	
71071	3	800107	025166	000.47	014.34	0459.3	02.05	01.65	18.3	000.14	007.57	0275.9	02.78	30.77	020	
71071	4	800527	029289	000.45	014.46	0460.7	01.87	01.68	18.3	000.11	006.99	0284.3	02.38	29.99	999	888
71072	0	790407	017688	000.78	007.65	0603.2	01.14	00.97	14.4	000.09	003.74	0428.0	00.91	20.43	360	
71072	1	790605	019111	000.50	004.95	0596.5	01.30	01.26	14.6	000.06	002.20	0424.9	01.14	20.69	200	
71072	2	791004	023246	000.84	008.97	0649.1	01.17	01.14	13.3	000.11	004.40	0480.3	01.01	18.19	220	120
71072	3	800107	026092	000.74	012.35	0569.1	01.27	01.03	15.0	000.13	004.18	0419.1	01.02	20.81	250	100
71072	4	800530	030442	000.66	007.80	0582.7	01.21	01.10	14.9	000.07	001.43	0440.2	01.26	20.03	640	230
71073	0	790407	029862	000.45	006.74	0464.8	00.88	00.75	18.5	000.03	002.74	0277.4	00.86	31.47	090	
71073	1	790608	031158	000.43	008.33	0471.2	00.82	00.73	18.3	000.04	002.46	0286.4	00.76	30.54	050	
71073	2	791005	035229	000.55	009.63	0477.5	00.83	00.81	17.9	000.04	003.03	0303.7	00.93	28.74	999	
71074	0	790407	020744	000.70	002.65	0516.0	02.68	02.31	17.0	000.14	000.13	0385.8	01.57	22.95	220	
71074	1	790602	021658	000.72	006.22	0496.4	02.42	02.37	17.4	000.17	001.20	0382.3	01.30	23.05	160	
71074	2	791003	024327	001.71	025.94	0478.3	01.95	01.70	16.9	000.79	009.59	0380.7	01.22	22.27	130	999
71074	3	800121	026148	004.30	068.44	0451.7	01.83	01.51	15.5	002.03	036.23	0353.8	01.46	21.26	050	999
71074	4	800527	028112	002.35	033.44	0455.8	02.32	02.22	17.2	000.63	004.90	0364.0	01.89	23.73	999	999
71075	0	790410	022576	001.03	017.21	0475.0	02.84	02.46	17.6	000.52	009.23	0299.1	02.23	28.13	130	
71075	1	790604	023594	001.12	021.08	0451.6	01.42	01.41	18.2	000.51	009.69	0282.3	01.46	29.65	110	
71075	2	791012	027127	001.29	020.78	0443.9	01.71	01.63	18.5	000.58	010.98	0297.1	01.89	28.04	170	
71075	3	800115	029575	000.72	010.14	0481.2	01.91	01.59	17.8	000.26	002.39	0314.1	01.71	27.83	130	
71075	4	800529	035983	000.49	005.38	0487.4	02.69	02.45	17.8	000.26	001.28	0312.1	02.58	28.16	230	888
71076	0	790411	021644	001.09	012.04	0543.3	02.51	02.18	15.7	000.32	004.55	0429.8	01.93	20.25	200	
71076	1	790608	024100	001.04	012.45	0513.0	02.24	01.97	16.5	000.20	002.61	0360.3	01.50	24.29	200	
71076	2	791009	027621	001.49	018.91	0514.7	01.89	01.75	16.1	000.67	013.57	0367.9	01.23	22.66	170	999
71076	3	800115	030380	002.05	024.65	0529.4	01.76	01.50	15.4	001.28	019.90	0385.8	01.51	21.06	130	010
71076	4	800530	034913	003.15	039.86	0469.9	01.88	01.83	16.3	001.28	016.48	0360.9	01.42	22.69	030	999
71101	0	790319	034470	000.99	019.24	0477.7	01.17	01.03	17.4	000.19	003.63	0389.5	01.30	22.41	170	
71101	1	790413	035664	001.04	016.64	0488.7	01.24	01.06	17.1	000.25	003.01	0393.0	01.34	22.25	160	
71101	2	790921	041231	001.40	028.89	0508.7	00.95	00.90	15.9	000.44	007.72	0429.1	00.90	20.04	150	050
71102	0	790312	020743	000.73	002.20	0666.0	01.48	01.32	13.2	000.20	000.03	0495.3	01.49	17.88	040	
71102	1	790420	021620	000.82	001.50	0700.3	01.83	01.55	12.6	000.18	000.04	0512.0	01.73	17.30	070	
71102	2	790914	023542	001.18	002.76	0639.3	01.24	01.31	13.7	000.23	000.18	0507.8	01.25	17.43	110	030
71102	3	791207	024657	001.13	002.80	0719.4	01.88	01.66	12.2	000.27	000.17	0527.4	01.69	16.78	060	999
71102	4	800428	026490	001.22	002.43	0712.3	01.93	01.81	12.3	000.23	000.08	0504.1	01.67	17.56	060	020
71103	0	790309	027313	001.68	011.06	0607.7	01.74	01.43	14.1	000.11	000.05	0412.0	01.54	21.50	170	
71104	0	790309	023868	001.13	013.08	0517.0	01.81	01.51	16.4	000.16	001.10	0380.6	02.94	23.17	160	
71104	1	790406	024476	000.89	006.67	0540.7	01.78	01.56	16.0	000.14	000.59	0382.0	02.67	23.13	120	
71104	2	790907	029692	002.02	021.93	0522.6	01.56	01.57	15.7	000.48	002.06	0372.0	02.40	23.54	999	999
71104	3	791206	031894	002.66	034.31	0505.0	01.61	01.43	15.6	000.47	003.85	0378.9	02.47	22.95	999	999
71104	4	800205	033456	001.20	012.55	0559.3	02.22	01.82	15.2	000.29	002.63	0384.4	02.68	22.77	090	020
71105	0	790312	030670	002.31	049.11	0373.6	03.31	02.85	19.4	000.74	011.91	0292.0	04.28	28.32	150	
71105	1	790412	031697	002.07	041.38	0368.5	03.15	02.75	20.1	000.42	009.25	0285.0	02.07	29.47	130	
71105	2	790913	035927	001.93	045.27	0360.3	01.34	01.23	20.3	000.42	009.13	0301.6	01.28	27.95	100	040
71105	3	791214	037698	001.99	044.63	0353.2	02.46	02.17	20.6	000.51	010.16	0298.0	02.36	28.10	030	999
71105	4	800201	038829	002.00	037.08	0357.6	02.77	02.26	21.0	000.43	008.35	0288.9	02.43	29.23	090	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71106	0	790316	013152	000.67	014.14	0429.2	01.22	01.06	19.6	000.08	006.96	0275.8	01.69	30.90	140	
71106	1	790503	013712	000.86	013.02	0421.5	01.33	01.20	19.9	000.12	006.47	0265.7	01.81	32.10	100	
71106	2	790913	016197	000.63	012.52	0437.6	01.15	01.17	19.3	000.07	006.23	0267.0	01.43	32.01	030	
71106	3	791212	017158	000.56	013.22	0436.2	01.26	01.11	19.3	000.13	007.67	0268.2	01.85	31.60	060	
71106	4	800423	018557	000.80	012.48	0439.8	01.29	01.14	19.2	000.11	005.14	0253.9	01.42	33.81	090	888
71107	0	790319	025875	001.29	014.76	0453.6	01.79	01.53	18.4	000.10	005.56	0289.2	02.16	29.74	020	
71107	1	790423	029721	001.06	014.21	0473.6	01.49	01.36	17.8	000.13	005.38	0305.8	02.09	28.19	999	
71107	2	790918	036283	001.21	014.66	0455.7	01.04	01.08	18.4	000.12	007.21	0290.1	01.40	29.38	010	
71107	3	791220	038007	000.50	015.25	0470.5	01.22	01.13	17.9	000.02	005.31	0308.3	01.29	28.00	020	
71107	4	800515	044112	001.35	015.12	0445.3	01.22	01.07	18.7	000.17	006.59	0269.0	01.48	31.69	020	888
71108	0	790320	028790	002.22	003.81	0263.7	02.53	02.14	32.1	000.62	000.68	0203.3	02.09	42.97	999	
71109	0	790320	024729	001.62	016.43	0338.9	03.27	02.80	24.0	000.73	003.22	0205.5	03.08	41.67	090	
71109	1	790425	025401	001.46	016.84	0292.8	03.33	02.80	27.4	000.69	002.60	0212.4	04.02	40.55	070	
71109	2	790920	030879	001.58	018.97	0295.6	03.33	03.36	26.8	000.77	003.98	0214.9	03.84	39.66	110	
71109	3	791218	032614	001.76	022.89	0316.1	04.57	04.29	24.8	000.76	004.73	0218.9	05.97	38.76	999	
71109	4	800513	034748	001.48	015.27	0300.8	04.18	03.67	26.9	000.77	003.55	0213.8	06.19	39.98	160	888
71110	0	790323	005980	001.54	009.13	0316.6	01.94	01.64	26.4	000.87	004.19	0220.5	03.58	38.59	040	
71110	1	790427	006383	001.52	008.13	0313.7	01.72	01.60	26.8	000.84	003.69	0218.1	03.07	39.15	040	
71110	2	790924	007843	001.67	008.39	0304.2	01.54	01.49	27.5	001.04	004.50	0219.3	03.04	38.61	080	
71110	3	791219	008441	001.40	008.38	0302.0	01.48	01.41	27.7	000.92	003.58	0208.9	02.77	40.79	999	
71110	4	800527	009451	001.35	008.35	0317.4	01.59	01.45	26.5	000.84	003.48	0211.1	02.88	40.45	020	888
71111	0	790327	027829	001.06	017.36	0431.7	01.45	01.33	19.2	000.22	008.97	0253.9	01.77	33.00	040	
71111	1	790428	028750	000.89	014.40	0401.7	01.40	01.30	20.8	000.18	008.70	0256.5	01.86	32.75	080	
71111	2	790924	036225	000.87	014.62	0451.4	01.42	01.37	18.6	000.17	007.78	0265.4	01.63	31.88	030	
71111	3	791226	038948	000.84	014.09	0411.4	01.51	01.33	20.3	000.22	007.34	0253.2	01.95	33.41	050	
71111	4	800514	044761	000.86	015.62	0432.4	01.32	01.24	19.3	000.13	007.50	0244.8	01.33	34.50	010	888
71112	0	790327	017432	000.96	009.82	0660.7	02.41	02.17	13.1	000.26	000.11	0447.4	04.26	19.78	020	
71112	1	790502	018421	000.88	007.21	0650.8	02.80	02.46	13.3	000.20	000.16	0453.3	03.90	19.52	999	
71112	2	790921	023561	000.85	006.47	0613.1	02.65	02.48	14.2	000.22	000.12	0424.0	03.85	20.87	020	999
71112	3	791221	025656	001.35	008.95	0604.8	02.97	02.63	14.2	000.25	000.11	0453.4	04.05	19.52	060	010
71112	4	800516	029010	001.15	008.14	0601.4	02.95	02.58	14.4	000.28	000.20	0452.4	04.67	19.55	070	999
71113	0	790411	038983	000.68	003.47	0595.9	03.11	02.74	14.7	000.18	000.26	0414.8	02.70	21.33	070	
71113	1	790509	040090	000.63	002.41	0592.8	02.66	02.28	14.8	000.16	000.05	0417.9	02.73	21.19	110	
71113	2	791011	044390	001.24	002.99	0585.2	04.08	03.87	14.9	000.59	000.26	0397.1	04.63	22.20	100	050
71113	3	800114	044390	001.13	004.96	0576.2	04.25	03.82	15.1	000.41	000.25	0409.3	04.67	21.58	090	040
71113	4	800604	044390	002.62	041.38	0562.4	03.01	02.69	13.9	000.62	002.44	0427.3	04.45	20.48	999	999
71114	0	790413	034072	000.66	002.99	0549.8	01.86	01.63	15.9	000.04	000.04	0386.5	01.29	22.94	230	
71114	1	790510	035265	000.66	001.54	0525.0	01.35	01.17	16.7	000.08	000.02	0383.6	01.01	23.10	750	
71114	2	791017	040085	002.15	036.29	0501.3	01.31	01.19	15.7	000.21	002.72	0378.1	01.06	23.15	020	999
71114	3	800124	042521	002.09	030.92	0527.3	01.40	01.16	15.2	000.24	002.53	0416.2	01.28	21.07	020	999
71114	4	800212	043267	003.01	040.23	0507.5	01.38	01.11	15.3	000.23	002.72	0413.5	01.30	21.19	010	999
71115	0	790417	028372	001.60	023.52	0585.7	01.63	01.39	14.1	000.05	000.23	0418.4	01.62	21.17	070	
71115	1	790515	029762	001.26	022.49	0590.2	01.41	01.28	14.1	000.07	000.48	0432.4	01.65	20.46	080	
71115	2	791025	034729	001.25	023.40	0571.6	01.46	01.33	14.5	000.10	000.93	0436.1	01.80	20.25	110	030
71115	4	800509	039760	000.85	018.18	0585.5	01.36	01.31	14.4	000.06	000.36	0417.8	01.51	21.19	120	040
71116	0	790417	020974	000.51	016.79	0468.1	01.95	01.66	17.9	000.10	007.47	0299.5	02.72	28.47	999	
71116	1	790511	021680	000.53	015.70	0444.5	01.74	01.53	18.8	000.14	008.66	0267.1	02.42	31.55	999	
71116	2	791017	028680	000.52	015.77	0463.3	01.51	01.37	18.1	000.20	009.55	0265.5	02.11	31.55	999	
71116	3	800116	032515	000.86	021.73	0405.1	01.94	01.68	20.1	000.57	016.16	0260.6	03.41	30.82	999	
71116	4	800429	037732	000.59	019.75	0428.8	03.31	02.91	19.2	000.15	011.04	0260.4	04.06	31.87	999	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND PASS

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
71117	0	790421	030393	000.97	006.74	0280.5	01.68	01.43	30.1	000.32	000.84	0190.9	01.98	45.89	060	
71117	1	790518	031511	001.11	006.99	0271.5	01.56	01.39	31.3	000.41	001.03	0188.0	02.00	46.44	040	
71117	2	791030	035435	001.03	007.44	0269.4	01.52	01.38	31.2	000.38	001.20	0196.8	02.06	44.37	999	
71117	4	800430	039375	001.01	005.90	0294.9	02.39	02.05	28.9	000.43	000.90	0217.6	03.14	40.25	030	888
71118	0	790419	040743	000.84	008.31	0553.7	04.98	04.22	15.6	000.12	000.61	0413.5	03.04	21.38	110	
71118	1	790516	042470	001.12	007.80	0541.7	04.52	03.95	15.9	000.12	000.34	0380.6	02.41	23.25	130	
71118	2	791025	050314	000.87	009.20	0551.3	04.70	04.35	15.6	000.13	000.43	0401.2	02.71	22.04	140	060
71118	3	800124	054841	000.80	012.31	0557.5	04.91	04.02	15.3	000.14	000.53	0388.7	02.93	22.74	190	020
71118	4	800424	059906	001.90	037.76	0565.0	05.13	04.48	14.1	000.21	002.15	0389.3	02.53	22.54	040	999
71119	0	790419	013579	001.22	005.73	0348.4	02.62	02.20	24.5	001.00	010.11	0223.5	03.24	36.56	620	
71119	1	790517	014011	001.40	011.29	0348.5	01.99	01.73	23.9	001.11	001.83	0224.5	03.17	38.42	360	
71119	2	791024	017501	001.92	016.84	0343.3	01.82	01.73	23.6	001.34	012.45	0220.4	02.53	36.32	120	
71119	3	800125	019238	001.81	012.26	0340.5	01.94	01.58	24.3	001.31	010.61	0217.1	02.86	37.27	120	
71119	4	800429	020175	002.00	021.32	0320.1	01.98	01.79	24.6	001.40	017.52	0207.6	02.74	37.01	020	888
71120	0	790420	014761	002.93	032.96	0471.0	01.76	01.49	16.7	000.66	006.91	0369.1	01.26	23.21	040	
71120	1	790518	015234	002.39	025.59	0469.2	01.63	01.46	17.2	000.44	004.10	0367.3	01.41	23.64	050	
71120	2	791025	019061	002.88	040.56	0445.1	01.45	01.32	17.1	000.69	008.13	0352.6	01.10	24.13	999	999
71120	3	800107	020676	002.86	039.82	0454.8	01.33	01.12	16.8	000.42	003.62	0375.6	01.28	23.18	030	999
71121	0	790421	023818	000.77	006.79	0554.3	04.58	03.96	15.6	000.17	000.04	0413.5	05.38	21.42	190	
71121	1	790531	024753	000.66	006.89	0538.1	03.89	03.47	15.1	000.20	000.01	0351.6	03.25	25.17	110	
71121	2	791031	029203	000.70	008.32	0561.3	03.76	03.34	15.4	000.21	000.02	0377.0	03.21	23.48	220	020
71121	3	800130	030470	000.87	009.15	0551.1	04.62	03.57	15.6	000.20	000.04	0367.8	03.77	24.07	220	020
71121	4	800501	032103	000.87	008.00	0548.9	03.61	03.44	15.7	000.20	000.05	0338.4	02.82	26.15	220	010
71122	0	790504	020004	001.37	017.43	0321.0	01.87	01.78	25.1	000.62	005.36	0214.8	01.74	39.38	999	
71122	1	790613	022101	001.16	015.55	0302.0	02.27	01.92	26.9	000.52	003.08	0220.7	02.82	39.04	999	
71122	2	791106	027239	001.58	027.57	0306.7	03.14	02.75	25.0	000.62	004.38	0207.1	03.97	41.06	999	
71122	4	800502	029646	000.98	010.73	0339.7	02.09	02.01	24.7	000.29	002.01	0217.7	02.77	39.98	050	888
71123	0	790425	016313	001.05	013.11	0470.7	02.20	01.83	17.9	000.08	000.67	0348.0	02.29	25.39	230	
71123	1	790522	016865	000.95	012.00	0460.8	01.92	01.78	18.4	000.08	000.70	0334.1	02.03	26.43	190	
71123	2	791030	020253	004.40	057.58	0408.8	04.37	03.99	17.3	000.54	004.09	0349.2	06.47	24.81	999	999
71123	3	800211	021406	004.58	054.85	0409.2	04.86	03.91	17.4	000.46	003.35	0346.1	07.02	25.14	999	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52001	0	790126	044059	001.22	027.42	0508.0	02.68	02.23	16.0	000.14	001.91	0376.6	04.02	23.33	020	
52001	M	790215	044730	001.70	031.79	0565.8	02.49	02.13	14.3	000.08	000.25	0390.1	03.97	22.70	240	
52001	1	790502	046773	001.46	032.25	0515.2	02.49	02.18	15.5	000.07	000.05	0379.9	04.67	23.32	190	
52001	2	790817	050986	000.79	005.12	0566.5	03.03	02.99	15.4	000.06	000.08	0402.7	03.95	22.00	400	100
52001	3	791101	053997	001.88	039.10	0518.9	03.08	02.62	15.1	000.08	000.37	0373.3	05.07	23.71	020	999
52001	4	800312	058356	003.21	067.66	0524.6	03.63	03.05	13.8	000.27	003.24	0409.6	07.63	21.34	999	999
52002	0	790129	035443	001.75	032.43	0468.9	03.08	02.47	16.9	000.25	002.48	0350.2	02.86	24.99	999	
52002	M	790207	035684	000.71	009.17	0477.2	03.27	02.82	18.0	000.10	000.42	0346.9	04.24	25.49	290	
52002	1	790427	039221	000.67	007.07	0488.4	02.99	02.77	17.7	000.07	000.13	0373.5	03.65	23.71	250	
52002	2	790813	041305	000.65	008.86	0490.3	02.94	02.84	17.5	000.09	000.53	0370.2	03.22	23.88	340	160
52002	3	791101	041849	000.57	010.14	0481.7	02.81	02.43	17.8	000.09	000.43	0384.7	03.63	23.00	340	130
52002	4	800305	043984	000.77	010.99	0498.2	03.21	02.65	17.1	000.10	000.46	0372.9	04.28	23.72	450	200
52003	0	790130	018220	001.68	048.26	0614.6	01.27	01.01	12.7	000.21	005.99	0429.7	02.44	20.16	030	
52003	M	790209	018407	000.57	007.54	0687.7	01.40	01.25	12.6	000.07	000.77	0452.6	02.45	19.53	250	
52003	1	790426	019476	001.63	040.51	0639.1	01.04	00.93	12.5	000.26	010.62	0452.6	01.65	18.86	300	
52003	R	790502	019515	000.69	018.39	0687.1	00.95	00.82	12.3	000.11	004.05	0478.6	00.97	18.27	090	
52003	C	790529	020053	000.52	008.15	0705.2	01.17	00.98	12.3	000.09	002.28	0483.4	01.15	18.20	230	
52003	2	790807	021620	000.68	011.31	0706.0	01.13	01.08	12.2	000.12	002.84	0515.8	01.21	17.03	140	100
52003	3	791101	023848	000.49	013.69	0708.4	01.26	01.08	12.1	000.10	002.44	0503.9	01.37	17.46	120	050
52003	4	800311	026427	000.50	005.81	0736.6	01.52	01.28	11.9	000.07	000.41	0525.4	01.70	16.85	240	110
52004	0	790202	050090	003.60	024.80	0431.2	01.39	01.11	18.4	000.53	003.12	0329.2	01.58	26.41	020	
52004	M	790209	050159	001.85	015.68	0462.7	01.22	01.12	18.0	000.49	002.96	0335.9	01.54	25.92	030	
52004	1	790501	051742	001.08	017.58	0481.1	01.47	01.30	17.3	000.37	002.91	0346.3	01.64	25.19	050	
52004	2	790817	052758	001.21	019.94	0474.3	01.43	01.39	17.4	000.38	003.04	0351.1	01.77	24.83	999	999
52004	3	791127	054042	001.48	020.48	0493.3	01.59	01.33	16.7	000.41	003.20	0365.5	01.80	23.85	060	999
52004	4	800403	055814	000.82	019.40	0525.5	03.28	02.72	15.9	000.20	002.87	0445.5	04.35	19.68	010	999
52005	0	790202	056066	003.10	059.88	0320.4	02.45	01.98	20.9	001.43	017.37	0229.1	03.23	33.99	999	
52005	M	790209	056153	002.01	004.97	0394.3	02.24	02.05	21.7	000.70	001.91	0246.8	02.74	35.18	830	
52005	1	790508	058326	003.26	030.57	0319.8	02.11	01.85	23.5	001.53	011.20	0214.4	02.50	37.44	999	
52005	2	790827	061662	003.02	034.14	0333.1	02.38	02.40	22.4	001.81	013.28	0227.8	02.66	34.85	999	
52005	3	791119	063836	003.05	030.53	0357.9	02.58	02.25	21.3	002.04	012.07	0232.1	02.79	34.43	999	
52005	4	800324	068496	003.20	028.96	0343.7	03.01	02.49	22.2	001.92	008.65	0231.7	03.35	35.28	999	888
52006	0	790207	061850	004.07	061.20	0696.4	01.68	01.46	11.0	000.77	010.89	0540.7	02.53	15.83	999	
52006	M	790216	062132	001.66	024.07	0783.0	01.32	01.13	10.7	000.51	008.85	0554.5	02.40	15.56	160	
52006	1	790508	064803	001.60	017.64	0777.1	01.54	01.35	10.9	000.42	005.28	0544.4	02.40	16.01	080	
52006	2	790814	067169	001.94	026.86	0738.3	01.37	01.35	11.3	000.38	002.62	0557.1	03.17	15.77	120	020
52006	3	791113	069882	001.45	016.39	0731.0	05.25	04.43	11.6	000.55	006.92	0571.8	08.50	15.17	999	999
52006	4	800404	072082	001.56	017.43	0774.7	01.89	01.65	11.0	000.51	004.54	0593.5	04.23	14.72	170	090
52007	0	790207	072027	006.71	115.46	0313.9	01.14	00.99	17.2	003.07	083.80	0277.7	01.57	21.16	999	
52007	M	790227	072986	002.07	032.49	0454.7	03.38	02.91	17.3	001.10	004.97	0361.4	05.65	23.80	050	
52007	1	790508	076834	003.36	112.54	0410.0	01.45	01.26	14.8	001.19	022.10	0388.6	03.03	20.76	999	
52007	R	790510	076872	001.28	017.00	0485.8	02.12	01.83	17.2	000.32	005.17	0365.9	02.63	23.65	020	
52007	C	790608	078625	004.20	190.27	0375.1	00.45	00.40	12.9	002.41	125.82	0279.5	00.52	18.29	060	
52007	2	790821	083321	001.76	032.00	0490.9	02.44	02.49	16.2	000.39	006.03	0453.3	03.99	19.11	030	999
52007	3	791116	088651	007.10	029.72	0412.6	07.31	06.36	18.4	001.42	006.68	0340.2	08.44	24.97	130	040
52008	0	790208	024899	001.19	014.20	0535.6	02.22	02.06	15.8	000.17	003.98	0363.6	01.94	23.94	090	
52008	M	790214	025000	001.11	015.12	0515.6	07.46	06.28	16.3	000.13	000.88	0381.8	08.92	23.12	110	
52008	1	790504	025819	001.22	019.86	0514.7	01.74	01.62	16.1	000.16	002.68	0361.7	01.94	24.20	090	
52008	2	790816	028391	001.11	019.12	0557.5	02.26	02.36	15.0	000.15	001.77	0399.6	02.68	22.01	060	999
52008	3	791115	029649	001.14	017.50	0524.8	02.43	02.04	16.0	000.14	001.54	0369.1	02.84	23.84	080	999
52008	4	800417	031349	001.04	014.45	0556.3	02.93	02.56	15.2	000.12	001.05	0384.8	03.00	22.92	030	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	JDDM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52009	0	790212	020447	002.14	023.46	0722.5	02.02	01.85	11.6	001.15	004.34	0497.1	03.75	17.47	999	
52009	M	790216	020547	002.76	017.87	0734.1	02.48	02.16	11.5	001.01	003.79	0494.3	04.07	17.62	060	
52009	1	790505	021333	001.34	016.16	0743.7	02.46	02.23	11.5	000.85	004.19	0491.1	04.44	17.72	120	
52009	2	790815	022068	001.36	013.46	0752.6	02.41	02.40	11.4	000.89	004.22	0514.9	04.49	16.91	060	020
52009	3	791116	023308	002.50	015.53	0745.9	02.71	02.43	11.4	001.02	004.27	0519.6	05.07	16.75	080	020
52009	4	800415	024122	002.26	025.61	0757.1	02.63	02.27	11.6	000.78	007.33	0517.8	04.96	16.67	999	999
52010	0	790212	046148	002.66	026.05	0634.7	01.59	01.45	13.0	000.25	001.68	0493.1	02.34	17.86	100	
52010	M	790223	046343	002.84	108.59	1028.2	01.44	01.24	07.3	001.12	072.54	0802.8	01.22	09.64	100	
52010	1	790601	048904	002.18	017.61	0606.2	04.14	04.22	13.8	000.23	001.78	0475.7	03.03	18.50	100	
52010	2	790821	051060	000.70	004.97	0689.5	01.95	02.01	12.7	000.08	000.05	0493.3	02.10	17.97	170	050
52010	3	791128	053870	001.54	010.62	0660.2	05.52	04.48	13.0	000.23	001.16	0474.0	07.53	18.61	100	050
52010	4	800208	055835	001.25	006.61	0654.1	04.27	03.50	13.3	000.16	000.34	0498.7	03.47	17.74	090	030
52011	0	790215	031192	003.61	048.93	0355.9	01.94	01.64	20.0	000.48	004.01	0295.3	02.33	29.25	999	
52011	M	790222	031342	004.35	017.68	0408.1	02.08	01.80	19.7	000.13	001.02	0321.5	02.16	27.42	130	
52011	1	790509	033092	000.94	010.28	0385.4	01.85	01.60	21.9	000.07	000.43	0292.5	01.70	30.23	060	
52011	2	790820	036094	001.27	016.72	0380.2	01.50	01.57	21.6	000.13	000.87	0322.8	01.86	27.32	060	030
52011	3	791126	038330	001.05	013.30	0367.6	02.37	02.05	22.0	000.15	000.92	0310.8	02.90	28.36	180	020
52011	4	800131	040034	001.24	016.49	0385.8	02.61	02.09	21.3	000.19	001.19	0309.2	03.29	28.45	060	999
52012	0	790215	038844	001.37	012.34	0321.4	02.99	02.59	25.7	001.00	003.78	0206.8	03.42	41.08	100	
52012	M	790226	038991	001.21	005.50	0392.5	03.09	02.67	21.9	000.67	002.00	0228.1	03.29	38.00	900	
52012	1	790522	039327	001.64	006.60	0345.3	02.48	02.28	24.6	000.73	001.79	0221.9	02.63	39.06	100	
52012	2	790823	040150	001.56	007.16	0340.2	02.36	02.31	24.9	000.80	002.27	0228.6	02.87	37.79	160	
52012	3	791120	041369	001.47	008.40	0352.0	02.06	01.77	24.0	000.78	002.26	0237.1	02.06	36.48	160	
52013	0	790215	038842	001.87	029.36	0517.1	04.96	04.34	15.6	000.52	006.80	0439.0	05.72	19.65	999	
52013	M	790223	039034	001.79	014.62	0534.9	05.73	04.85	15.7	000.66	003.55	0426.7	06.06	20.42	110	
52013	1	790515	041477	001.57	017.97	0493.5	04.28	03.90	16.8	000.50	003.73	0404.2	04.63	21.54	060	
52013	2	790905	044756	001.48	016.79	0531.3	04.53	04.53	15.8	000.49	005.21	0429.4	04.92	20.19	100	020
52013	3	791126	047788	001.73	019.33	0534.6	05.18	04.42	15.5	000.56	004.08	0428.8	05.24	20.29	030	999
52013	4	800421	052330	001.40	025.11	0565.4	05.09	04.38	14.6	000.41	003.43	0471.1	05.75	18.56	060	010
52014	0	790215	028332	002.42	061.07	0502.9	01.86	01.58	14.6	000.24	005.42	0389.7	02.39	22.23	999	
52014	M	790226	028583	001.60	019.50	0597.0	02.46	02.17	14.0	000.12	001.68	0406.1	02.56	21.68	100	
52014	1	790511	030594	000.99	012.40	0542.0	01.89	01.66	15.7	000.10	001.16	0375.9	02.17	23.46	190	
52014	2	790820	031790	001.38	019.61	0549.4	01.59	01.61	15.2	000.14	001.54	0415.5	01.83	21.20	100	999
52014	3	791204	034198	000.97	015.45	0570.0	02.13	01.97	14.8	000.11	000.88	0409.6	02.30	21.56	080	999
52015	0	790216	048577	001.52	012.42	0303.8	03.80	03.34	27.0	000.96	005.76	0210.6	05.67	39.82	999	
52015	M	790315	049484	003.04	013.12	0290.9	03.54	03.15	27.6	001.08	005.93	0214.8	05.97	38.96	999	
52015	1	790530	052786	001.89	011.95	0288.1	03.81	03.39	28.3	001.06	007.20	0206.6	05.86	40.08	999	
52016	0	790220	062858	000.72	021.32	0423.5	03.83	03.31	19.3	000.43	009.80	0263.6	04.86	31.63	030	
52016	M	790227	062994	001.29	019.98	0411.4	04.05	03.45	19.8	000.43	008.15	0260.3	05.23	32.30	999	
52016	1	790522	064925	001.07	021.95	0412.5	04.36	04.04	19.7	000.40	008.77	0251.7	04.70	33.24	999	
52016	2	790827	067881	001.49	014.50	0411.4	04.26	04.40	20.2	000.58	003.43	0265.9	05.69	32.47	999	
52016	3	791126	070530	001.46	016.23	0375.7	04.77	04.06	21.9	000.60	003.02	0258.9	06.16	33.40	999	
52016	4	041580	075517	001.57	016.90	0405.7	05.71	04.93	20.3	000.56	004.23	0253.4	06.25	33.87	070	888
52017	0	790222	059716	001.31	042.69	0622.0	03.73	03.29	12.8	000.25	004.65	0484.0	05.27	18.02	999	
52018	0	790223	043505	002.25	026.45	0416.2	01.29	01.14	19.1	000.28	003.75	0284.0	01.88	30.49	020	
52018	M	790319	043962	001.43	016.33	0439.3	01.52	01.31	18.9	000.18	002.97	0291.7	02.31	29.87	130	
52018	1	790608	044999	001.97	021.20	0410.9	01.47	01.33	19.7	000.20	003.01	0281.4	01.71	30.93	999	
52018	2	790820	045905	002.24	023.49	0416.9	01.73	01.76	19.2	000.31	002.59	0286.0	02.33	30.47	999	
52018	3	791126	047896	002.43	026.92	0403.5	01.82	01.57	19.6	000.30	003.17	0274.4	02.37	31.64	999	
52018	4	800205	049444	002.74	027.76	0392.2	01.69	01.38	19.9	000.37	002.69	0269.9	02.43	32.21	999	

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52019	0	790226	063567	002.72	051.96	0462.1	03.19	02.69	16.1	000.37	004.42	0370.9	04.00	23.40	999	
52019	M	790307	063897	000.63	006.29	0483.9	03.14	02.74	17.9	000.18	002.36	0361.9	03.99	24.22	180	
52019	1	790519	066890	002.75	078.11	0445.5	02.49	02.22	15.4	000.57	010.17	0356.9	03.14	23.67	999	
52019	R	790524	066940	001.91	023.64	0416.0	02.85	02.62	19.3	000.25	003.16	0324.6	05.04	26.85	050	
52019	C	790627	068147	002.46	044.93	0444.5	04.36	04.00	17.0	000.64	008.38	0350.5	06.09	24.25	999	
52019	2	790829	070685	001.74	040.29	0468.7	03.68	03.80	16.5	000.35	006.16	0346.7	04.88	24.81	999	999
52019	3	791129	073453	001.77	035.40	0454.8	04.47	03.69	17.2	000.44	009.10	0338.8	05.70	25.01	999	999
52019	4	800208	075571	003.88	096.19	0405.4	03.70	03.03	15.6	000.64	009.91	0350.3	05.64	24.10	999	999
52020	0	790227	061455	005.46	041.44	0542.6	02.69	02.30	14.2	000.55	003.87	0431.5	02.72	20.18	999	
52020	M	790403	062099	002.84	038.26	0726.0	01.43	01.24	11.2	000.63	024.16	0562.4	01.31	14.72	060	
52020	1	790620	064063	002.66	030.86	0692.6	01.46	01.33	11.8	000.49	012.06	0542.2	01.53	15.76	999	
52020	2	790828	065670	003.49	016.80	0597.3	01.88	01.83	14.0	000.49	003.28	0481.6	01.85	18.16	030	999
52020	3	791127	068672	002.99	012.76	0616.2	02.41	02.04	13.7	000.33	001.30	0454.8	02.49	19.37	070	999
52021	0	790301	081038	005.63	054.72	0521.6	04.06	03.37	14.2	000.59	002.23	0398.4	05.73	21.96	999	
52051	0	790305	041037	001.12	012.47	0349.0	02.54	02.41	23.8	000.48	002.01	0223.2	02.68	38.92	130	
52052	0	790306	053366	003.48	073.58	0672.4	02.05	01.87	11.1	001.29	020.44	0509.3	02.10	16.26	010	
52052	M	790330	054026	002.77	037.96	0780.0	02.35	02.01	10.5	000.40	003.37	0555.6	02.57	15.77	090	
52052	1	790530	055309	001.03	009.62	0766.2	02.77	02.43	11.3	000.22	000.79	0522.1	02.98	16.92	140	
52052	2	790905	057368	003.61	074.32	0659.9	06.10	06.27	11.3	000.75	007.81	0505.9	07.54	17.03	999	999
52052	3	791217	059107	003.92	082.00	0721.4	02.52	02.22	10.3	000.67	009.23	0531.6	03.03	16.18	999	999
52053	0	790307	026630	000.82	008.77	0540.4	02.77	02.41	15.9	000.12	000.21	0383.9	04.35	23.06	160	
52053	M	790322	026782	000.91	009.56	0575.2	03.31	02.78	15.0	000.13	000.52	0415.7	04.69	21.27	140	
52053	1	790512	027277	000.99	006.57	0547.6	02.56	02.23	15.8	000.10	000.17	0395.9	03.75	22.37	140	
52053	2	790906	032148	000.83	008.15	0563.4	02.54	02.56	15.3	000.19	000.62	0404.4	03.71	21.84	140	020
52053	3	791204	034977	001.00	004.74	0578.2	03.17	02.92	15.1	000.59	000.14	0440.9	04.08	20.02	150	020
52053	4	800416	040021	001.14	007.85	0595.6	02.82	02.59	14.5	000.56	000.28	0432.7	03.68	20.39	050	999
52054	0	790307	037019	002.92	062.93	0527.3	01.99	01.73	14.0	000.32	008.38	0450.0	03.39	19.10	030	
52054	M	790315	037354	001.63	032.96	0614.3	01.25	01.14	13.2	000.10	002.79	0469.6	02.07	18.70	110	
52054	1	790524	039292	003.85	072.21	0531.9	01.81	01.70	13.5	000.53	011.33	0441.0	02.76	19.26	999	
52054	R	790529	039334	000.61	009.35	0611.1	02.03	01.76	14.1	000.08	003.46	0424.9	02.70	20.60	090	
52054	C	790627	040020	000.56	008.22	0614.4	02.08	01.90	14.1	000.06	000.51	0462.9	03.06	19.12	160	
52054	2	790904	041884	000.86	016.45	0594.4	01.87	01.79	14.2	000.13	003.59	0454.0	02.78	19.27	110	030
52054	3	791210	045387	000.90	012.29	0593.8	01.97	01.69	14.4	000.11	002.36	0431.5	02.80	20.36	140	010
52054	4	800422	049679	000.76	013.37	0618.3	02.07	01.85	13.8	000.11	002.74	0451.1	02.80	19.46	150	060
52055	0	790308	041604	004.00	048.67	0550.9	08.48	07.23	13.9	000.47	002.35	0448.0	10.45	19.57	999	
52056	0	790312	070141	001.68	030.04	0650.4	02.47	02.18	12.6	000.23	003.04	0440.4	05.38	19.89	200	
52056	M	790320	070213	001.52	008.39	0752.6	02.63	02.29	11.5	000.08	000.11	0450.5	04.87	19.67	110	
52056	1	790509	071055	001.12	023.11	0712.9	02.57	02.27	11.8	000.13	002.07	0446.4	05.69	19.70	270	
52056	2	790911	074222	001.11	026.96	0708.2	02.66	02.48	11.8	000.15	002.34	0445.9	05.52	19.70	040	010
52057	0	790313	035677	001.52	018.89	0417.5	07.05	05.98	19.6	000.25	001.37	0339.4	08.32	25.90	010	
52057	M	790322	036243	000.46	004.10	0463.7	08.13	06.70	18.8	000.09	000.18	0360.0	09.22	24.59	140	
52057	1	790509	036838	000.54	006.93	0458.1	07.50	06.53	18.8	000.11	000.06	0350.4	08.60	25.28	140	
52057	2	790914	038923	001.19	021.28	0442.2	06.56	05.96	18.5	000.19	001.07	0352.3	07.14	25.01	999	999
52057	3	791213	040870	001.26	006.30	0459.8	06.74	06.10	18.7	000.16	000.09	0360.3	07.33	24.57	999	999
52057	4	800208	042213	001.95	037.38	0429.1	07.12	05.87	18.0	000.37	002.04	0402.3	10.64	21.81	999	999
52058	0	790313	054214	004.20	063.81	0645.8	03.22	02.76	11.6	001.88	052.58	0457.9	02.80	16.23	080	
52058	M	790322	054371	003.60	047.95	0711.7	03.79	03.23	11.1	001.53	041.08	0501.7	03.01	15.53	020	
52058	1	790512	055057	003.37	037.57	0669.6	03.11	02.77	12.0	001.43	027.49	0461.2	02.62	17.42	080	
52058	2	790918	055767	004.74	082.19	0685.0	02.18	02.17	10.7	001.69	043.53	0503.7	02.04	15.36	999	999
52058	3	791217	056472	005.08	094.52	0631.2	02.12	01.92	11.1	001.82	047.73	0478.4	02.10	15.86	999	999
52058	4	800209	057118	005.06	065.34	0627.7	03.17	02.58	11.9	002.35	037.66	0471.8	03.12	16.47	999	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52059	0	790314	028208	001.02	016.73	0515.0	03.01	02.81	16.3	000.43	011.78	0405.2	05.44	20.86	210	
52059	M	790322	028508	002.06	006.95	0523.2	04.25	03.53	16.4	000.22	002.31	0413.9	06.43	21.20	060	
52059	1	790516	029538	000.92	007.76	0461.6	03.42	03.05	18.6	000.27	004.09	0377.7	04.84	23.04	999	
52059	2	790914	032152	001.69	017.69	0428.9	03.03	03.10	19.2	000.73	015.14	0340.6	03.67	24.18	370	170
52059	3	791219	034598	002.44	025.15	0455.1	02.98	02.78	17.7	000.70	015.61	0361.9	03.58	22.82	330	170
52059	4	800206	035865	001.65	018.05	0428.5	03.40	02.91	19.2	000.51	011.09	0348.1	03.65	24.16	430	260
52060	0	790321	062993	001.18	008.38	0478.4	03.67	03.02	17.9	000.44	002.55	0321.5	05.03	27.13	250	
52060	M	790327	063049	001.23	009.10	0460.1	03.15	02.84	18.5	000.45	002.57	0314.1	04.24	27.75	450	
52060	1	790517	064330	000.91	007.12	0427.6	02.87	02.55	20.1	000.36	002.33	0303.8	04.25	28.73	250	
52060	2	790924	069758	001.30	010.26	0481.1	03.48	03.28	17.7	000.50	002.88	0322.3	04.19	27.00	350	
52060	3	791218	073238	001.14	009.64	0469.8	02.95	02.77	18.2	000.47	002.78	0326.5	04.40	26.68	360	
52060	4	800512	079439	001.02	010.20	0467.7	03.12	03.02	18.2	000.43	003.27	0320.3	04.30	27.14	410	888
52061	0	790321	050265	001.26	015.41	0403.2	02.66	02.29	20.6	000.33	006.23	0261.6	03.62	32.55	999	
52061	M	790330	050386	001.42	014.26	0371.8	02.38	02.03	22.2	000.36	005.01	0255.9	03.60	33.47	040	
52061	1	790517	050854	003.65	017.89	0363.0	02.35	02.05	22.0	000.96	006.64	0264.4	03.93	31.91	090	
52061	2	790927	052856	001.59	016.29	0361.8	02.14	02.05	22.6	000.50	007.36	0271.9	03.63	31.11	999	
52061	3	800116	054678	001.84	017.71	0381.7	02.41	02.12	21.4	000.52	007.86	0273.0	03.72	30.90	010	
52062	0	790329	043798	001.31	014.99	0526.3	07.00	06.10	16.0	000.15	000.77	0401.1	09.62	22.02	130	
52062	M	790409	043997	001.09	009.63	0497.6	06.90	05.95	17.2	000.14	000.38	0387.0	08.78	22.85	140	
52062	1	790523	045272	000.93	008.91	0458.7	06.26	05.75	18.6	000.17	000.60	0352.3	08.01	25.07	100	
52063	0	790403	046958	001.95	065.60	0672.7	02.36	02.06	11.3	000.26	007.20	0430.6	03.80	20.03	999	
52063	M	790410	047065	001.11	023.48	0690.9	02.21	01.94	12.1	000.11	001.89	0441.1	03.71	19.95	110	
52063	1	790601	047894	001.22	026.76	0685.3	01.50	01.53	12.1	000.11	002.47	0423.9	02.74	20.71	080	
52063	2	791023	050703	001.87	036.84	0741.0	02.14	02.01	11.0	000.14	002.66	0511.9	03.32	17.17	120	020
52063	3	791227	052050	001.26	026.45	0713.6	02.07	01.77	11.7	000.11	001.75	0482.6	03.76	18.26	090	020
52063	4	800521	054711	003.38	072.40	0674.3	02.10	02.22	11.1	000.37	007.00	0477.2	02.55	18.12	999	999
52064	0	790404	048482	002.12	034.58	0317.9	02.24	01.97	23.4	000.95	009.61	0237.7	03.92	34.67	999	
52064	M	790421	049140	001.91	022.74	0323.4	02.41	02.07	24.3	000.84	008.16	0220.2	03.40	37.63	140	
52064	1	790612	051609	001.92	024.15	0333.7	02.67	02.32	23.5	000.95	008.80	0236.4	04.09	35.01	130	
52064	2	791002	056034	002.03	029.94	0333.1	02.11	02.02	22.9	000.97	010.57	0233.4	03.39	35.05	070	
52064	3	800102	061751	002.20	036.81	0316.1	01.96	01.76	23.3	001.02	013.89	0218.1	02.73	36.47	020	
52064	4	800610	067753	004.07	017.51	0350.4	01.95	01.78	22.7	001.05	006.60	0232.5	03.05	36.02	280	888
52065	0	790409	072612	004.78	090.87	0395.8	02.22	01.88	16.0	002.75	067.00	0344.5	02.41	19.34	999	
52065	M	790412	072844	001.22	014.82	0495.3	02.72	02.44	17.0	000.28	003.50	0410.1	02.60	21.29	080	
52065	1	790608	075227	001.80	041.97	0461.4	02.67	02.49	16.6	000.30	004.18	0407.6	02.63	21.36	999	
52065	R	790613	075284	000.94	008.33	0461.0	05.58	04.87	18.6	000.24	001.73	0389.8	05.59	22.55	040	
52065	C	790709	076016	001.47	017.09	0447.8	04.37	04.61	18.5	000.33	003.10	0396.0	04.20	22.06	110	
52065	2	791012	081936	002.70	054.32	0421.3	04.19	04.00	17.2	000.54	007.80	0384.5	04.65	22.25	070	020
52065	3	800122	083926	003.81	062.31	0452.2	05.03	04.17	15.8	001.51	019.47	0404.5	05.40	20.16	999	999
52065	4	800529	086712	004.26	067.04	0411.6	04.01	03.88	16.7	001.02	008.66	0387.4	05.02	21.94	999	999
52066	0	790405	044082	011.69	052.95	0686.5	02.79	02.47	11.0	007.95	024.55	0529.6	05.16	14.95	100	
52066	M	790417	044250	003.65	056.05	0705.4	02.64	02.26	11.0	002.20	049.47	0474.8	03.97	15.85	170	
52066	1	790602	045175	003.41	054.14	0686.0	02.31	02.28	11.3	002.22	059.09	0449.4	03.08	16.14	140	
52066	2	791010	048963	004.26	055.63	0683.2	02.60	02.30	11.3	002.22	042.37	0465.4	04.07	16.45	210	030
52066	3	800104	051197	023.14	059.68	0655.7	03.23	02.82	10.8	020.30	041.44	0506.1	06.48	13.95	140	040
52066	4	800213	052040	016.99	066.81	0666.9	03.20	02.57	10.7	005.17	055.08	0479.4	04.96	15.23	130	030
52067	0	790407	043546	001.75	011.74	0515.6	04.94	04.26	16.3	000.46	003.72	0397.4	06.28	21.91	130	
52067	M	790418	043823	001.02	008.54	0491.2	04.70	03.96	17.5	000.42	003.01	0385.7	06.39	22.64	999	
52067	1	790606	044547	001.09	010.18	0518.4	04.65	04.15	16.5	000.37	003.02	0365.0	06.31	23.91	999	
52067	2	791004	047154	001.04	008.81	0510.3	04.37	04.09	16.8	000.37	004.18	0378.7	05.70	22.95	999	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52068	0	790407	040969	002.14	045.55	0614.3	02.34	01.99	12.7	000.22	004.74	0482.4	03.15	18.08	040	
52068	M	790418	041174	000.62	007.63	0633.2	04.93	04.15	13.7	000.07	001.11	0473.3	06.24	18.66	240	
52068	1	790609	042411	000.48	005.96	0629.4	03.85	03.47	13.8	000.06	000.67	0478.8	05.03	18.47	170	
52069	0	790407	057502	002.67	064.59	0462.2	05.06	04.42	15.5	000.40	011.03	0364.0	05.63	23.18	999	
52069	M	790420	057834	002.24	034.26	0514.3	05.63	04.73	15.4	000.50	012.02	0367.1	05.29	22.88	150	
52069	1	790606	060338	001.98	033.16	0495.0	05.45	04.97	16.0	000.20	004.22	0313.4	05.53	27.66	080	
52069	2	791008	066381	002.20	051.08	0485.4	04.93	04.76	15.5	000.30	007.41	0366.7	07.04	23.38	050	999
52069	3	800122	072880	002.56	052.77	0456.0	05.54	04.42	16.2	000.39	007.89	0347.2	07.59	24.57	999	999
52069	4	800602	079732	002.01	045.73	0483.7	02.12	02.03	15.8	000.16	003.24	0341.8	02.74	25.53	080	999
52070	0	790410	070791	001.50	062.91	0613.8	03.48	02.98	14.2	000.29	000.08	0383.4	04.75	23.07	330	
52070	M	790417	070996	000.87	008.08	0541.3	02.85	02.40	15.9	000.11	000.38	0357.8	04.38	24.72	190	
52070	1	790612	073212	000.96	014.06	0537.8	03.15	02.77	15.8	000.16	001.24	0387.3	05.31	22.75	130	
52070	2	791012	078074	001.34	034.40	0504.8	02.49	02.31	15.7	000.33	004.39	0353.8	03.75	24.52	999	999
52070	3	800117	082618	002.06	045.73	0506.9	03.55	03.09	15.2	000.65	009.38	0391.9	05.54	21.70	999	999
52070	4	800320	085743	002.00	047.33	0491.1	03.07	02.65	15.5	000.60	008.72	0385.7	04.90	22.10	999	999
52071	0	790410	038440	001.95	050.10	0475.8	01.51	01.33	15.8	001.13	022.88	0389.7	01.79	20.66	999	
52071	M	790418	038678	001.68	034.00	0494.1	01.72	01.47	16.0	001.03	020.43	0394.7	01.91	20.62	040	
52071	1	790612	040913	001.85	039.35	0489.6	01.62	01.40	15.9	000.98	020.67	0401.2	01.95	20.31	040	
52071	2	791016	046443	001.75	039.86	0461.3	01.43	01.36	16.7	001.14	024.17	0363.0	01.70	21.92	040	999
52071	3	800116	048411	002.39	057.09	0463.6	01.53	01.36	15.8	001.40	032.44	0384.7	02.01	20.15	999	999
52071	4	800214	049192	002.30	053.96	0436.6	01.69	01.32	16.8	001.37	034.82	0362.6	02.08	21.03	999	999
52072	0	790419	057116	001.02	008.10	0351.3	02.73	02.33	24.1	000.33	002.79	0224.6	02.59	38.55	020	
52072	M	790505	057510	000.63	005.03	0434.2	02.03	01.84	20.0	000.10	002.11	0279.1	01.68	31.36	510	
52072	1	790621	059548	002.23	003.51	0358.9	02.26	02.06	23.9	000.27	001.27	0241.2	02.27	36.33	090	
52072	2	791030	065762	001.42	012.85	0343.6	03.72	03.36	24.1	000.62	002.34	0238.1	04.00	36.38	999	
52072	3	800123	068222	001.28	012.19	0327.6	04.03	03.24	25.3	000.73	003.26	0229.6	04.69	37.41	999	
52072	4	800430	072811	001.24	013.02	0339.9	03.98	03.41	24.3	000.62	002.70	0236.1	04.36	36.60	999	888
52101	0	790313	030207	002.71	036.55	0458.7	02.88	02.46	16.9	000.54	005.07	0355.0	04.65	24.32	060	
52101	M	790321	030420	001.12	009.52	0527.8	03.17	02.72	16.2	000.19	001.33	0376.5	04.87	23.39	140	
52101	1	790425	031218	001.70	018.31	0506.1	03.81	03.36	16.4	000.30	002.56	0383.8	05.30	22.81	050	
52101	R	790427	031257	001.07	007.26	0518.6	03.38	03.08	16.6	000.15	000.47	0364.1	04.80	24.28	110	
52101	C	790530	031948	001.12	009.35	0525.4	03.23	02.83	16.3	000.19	001.45	0354.5	04.55	24.81	070	
52101	2	790912	033183	001.29	013.90	0506.1	02.74	02.69	15.7	000.47	004.77	0358.3	03.42	24.15	120	010
52101	3	791207	034768	001.41	016.18	0519.5	03.18	02.88	16.1	000.89	010.52	0375.5	04.20	22.46	140	010
52101	4	800418	037006	002.48	035.67	0527.1	03.01	02.70	15.0	001.59	024.70	0351.6	04.30	22.42	070	999
52102	0	790312	036363	001.62	028.87	0374.1	02.25	01.92	20.9	000.37	003.58	0308.2	02.65	28.15	999	
52102	M	790330	036982	001.91	031.96	0385.8	02.42	02.07	20.1	000.33	003.51	0325.1	02.52	26.74	999	
52102	1	790427	037938	002.04	032.17	0404.6	02.39	02.22	19.2	000.30	003.69	0329.9	02.55	26.34	999	
52102	2	790914	043055	001.89	028.89	0378.8	02.29	02.09	20.6	000.36	003.34	0322.1	02.25	27.00	999	999
52102	3	791210	045748	001.93	034.40	0397.1	02.41	02.08	19.4	000.37	003.85	0330.8	02.44	26.24	999	999
52102	4	800201	046507	002.26	032.54	0380.8	01.91	01.58	20.2	000.45	004.67	0335.8	02.04	25.74	999	999
52103	0	790312	032207	002.15	050.04	0681.0	03.17	02.71	11.6	000.27	005.32	0493.9	07.28	17.63	999	
52103	M	790321	032299	000.84	019.00	0764.3	03.54	02.97	11.1	000.16	003.07	0642.1	09.25	13.70	130	
52103	1	790425	032845	000.71	016.27	0696.9	03.02	02.63	12.2	000.16	001.81	0478.4	07.11	18.41	120	
52103	2	790913	035568	000.73	016.88	0713.7	02.57	02.40	11.9	000.15	001.95	0472.5	05.86	18.63	060	020
52103	3	791210	036959	001.81	020.38	0714.2	03.00	02.55	11.8	000.14	001.26	0466.1	07.35	18.93	060	010
52103	4	800424	039578	001.44	015.70	0696.8	03.23	02.83	12.2	000.16	003.05	0478.1	07.23	18.35	999	999
52104	0	790313	037955	005.81	072.59	0331.0	02.34	01.92	19.1	001.27	010.78	0249.7	03.34	32.76	999	
52104	M	790319	038042	002.97	024.55	0396.0	02.12	01.80	20.0	000.60	002.27	0274.6	03.18	31.67	190	
52104	1	790420	039106	001.68	015.67	0385.8	02.41	02.02	21.3	000.57	002.12	0264.3	03.45	32.91	150	
52104	2	790911	042846	001.40	014.81	0405.9	01.41	01.31	20.5	000.16	002.44	0300.0	01.44	29.14	210	
52104	3	800115	046544	002.16	022.55	0426.8	01.47	01.22	18.9	000.15	003.32	0313.7	01.61	27.77	230	
52104	4	800422	049108	001.96	019.97	0366.3	02.99	02.64	22.0	000.46	002.65	0245.7	04.42	35.29	210	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
52105	0	790316	049244	001.46	018.30	0515.4	05.23	04.54	16.2	000.76	014.80	0349.6	05.03	23.63	270	
52105	M	790320	049315	001.36	022.78	0517.1	04.85	04.21	15.9	000.48	010.92	0354.9	04.49	23.73	300	
52105	1	790424	050273	002.28	021.39	0527.2	05.44	04.88	15.6	001.01	020.37	0333.7	04.95	24.04	230	
52105	2	790917	053527	001.80	025.01	0496.9	04.97	04.69	16.4	000.20	003.04	0340.6	05.49	25.63	160	999
52105	3	791213	055417	001.30	016.92	0458.8	04.96	04.41	18.1	000.34	006.40	0361.9	05.43	23.77	150	020
52106	0	790319	046796	003.15	049.93	0727.7	02.71	02.38	10.9	000.76	017.44	0524.1	03.64	16.01	020	
52106	M	790322	046831	000.97	011.12	0778.0	02.62	02.19	11.1	000.17	001.41	0549.0	05.08	16.07	110	
52106	1	790428	047274	000.80	007.31	0750.0	01.95	01.80	11.6	000.31	006.91	0509.3	03.32	17.02	090	
52107	0	790320	054049	001.64	034.88	0504.3	03.62	03.05	15.7	000.83	013.15	0386.1	04.92	21.66	110	
52107	M															
52108	0	790327	029955	002.49	035.62	0451.0	03.76	03.34	17.2	001.16	011.06	0367.3	03.17	22.84	999	
52108	M	790407	030257	001.16	010.39	0519.1	02.79	02.41	16.5	000.34	003.79	0428.3	02.19	20.37	120	
52108	1	790507	030853	000.97	008.87	0514.7	02.77	02.52	16.7	000.25	003.04	0415.5	02.16	21.06	090	
52108	2	790928	033387	001.43	026.67	0504.5	02.04	01.91	16.1	000.44	007.52	0450.2	01.90	19.14	999	999
52108	3	800118	034894	001.65	032.14	0505.5	02.36	02.01	15.8	000.39	007.19	0440.2	02.19	19.59	999	
52108	4	800610	037520	001.37	017.35	0507.2	02.16	02.09	16.5	000.34	004.96	0428.3	01.81	20.28	040	010
52109	0	790413	053297	002.48	040.49	0788.7	02.70	02.37	10.3	000.84	044.73	0533.2	02.42	14.63	080	
52109	M	790509	054258	000.75	006.62	0723.0	01.43	01.23	12.1	000.09	000.57	0539.1	01.13	16.41	075	
52109	1	790607	054833	000.81	010.87	0779.0	01.75	01.52	11.1	000.09	000.41	0563.3	01.33	15.72	110	
52109	2	791024	060679	001.23	015.41	0755.0	03.43	03.24	11.3	000.17	000.79	0548.9	03.31	16.10	140	020
52109	4	800605	066547	002.64	034.92	0690.4	03.19	02.97	11.8	000.44	004.18	0500.8	03.06	17.43	030	999
52110	0	790418	045276	006.43	068.98	0319.4	02.09	01.80	19.8	001.28	010.61	0246.7	02.46	33.16	999	
52110	M	790522	046568	002.88	034.44	0393.4	01.35	01.27	19.4	000.52	005.42	0250.3	01.80	34.05	120	
52110	1	790620	048404	002.27	030.93	0371.9	02.19	01.99	20.7	000.41	003.09	0247.2	02.91	35.01	999	
52110	2	791101	050042	002.30	030.89	0370.0	02.45	02.13	20.8	000.58	004.25	0249.6	03.27	34.35	060	
52110	3	800118	050569	002.23	032.39	0360.3	02.02	01.57	21.2	000.56	003.94	0243.9	02.78	35.21	030	
52110	4	800212	050632	002.11	031.21	0368.6	02.25	01.77	20.9	000.54	004.14	0250.0	03.20	34.34	070	888
52111	0	790417	032772	001.87	047.15	0436.7	02.60	02.21	17.2	000.31	003.42	0363.4	02.62	23.98	999	
52111	M	790501	032908	000.60	003.95	0506.3	02.64	02.36	17.2	000.08	000.32	0374.9	02.68	23.61	230	
52111	1	790601	034079	000.88	010.13	0499.3	02.77	02.76	17.1	000.12	000.68	0335.2	02.46	26.34	080	
52111	2	791024	038548	001.26	014.63	0490.3	03.05	02.88	17.1	000.14	000.62	0350.7	02.85	25.19	140	030
52111	3	800122	040988	001.34	019.26	0469.8	03.26	02.75	17.6	000.21	001.22	0373.8	12.75	23.56	070	010
52111	4	800215	041390	001.36	019.67	0451.4	03.16	02.62	18.2	000.39	003.70	0336.5	03.02	25.82	999	999
52112	0	790424	104815	004.35	022.42	0721.4	02.94	02.63	11.5	000.45	000.66	0483.5	03.57	18.25	190	
52112	M	790502	105027	001.24	019.92	0676.2	02.35	02.05	12.5	000.09	000.59	0513.6	02.00	17.23	390	
52112	1	790531	105448	001.41	028.15	0701.0	02.29	02.05	11.8	000.08	000.45	0487.8	01.79	18.14	360	
52112	2	791026	107323	001.89	038.24	0678.1	02.19	02.02	11.9	000.07	000.58	0527.3	01.96	16.78	240	070
52112	4	800501	111867	002.58	054.87	0662.7	02.13	02.09	11.7	000.07	000.64	0529.0	02.16	16.72	170	050
62000	0	790129	029069	003.68	033.84	0539.3	03.37	02.70	14.7	000.96	006.40	0462.7	03.33	18.64	050	
62000	M	790212	029284	001.89	025.96	0649.0	03.25	02.96	12.7	001.07	017.38	0508.9	03.75	16.44	200	
62000	1	790509	030892	001.04	006.90	0674.1	01.98	01.68	12.9	000.60	004.07	0493.5	02.88	17.67	200	
62000	2	790807	033430	001.49	019.87	0674.4	01.65	01.67	12.5	000.72	005.18	0512.6	02.75	16.95	170	050
62000	3	791109	035953	001.30	014.12	0679.2	01.90	01.68	12.6	000.52	001.77	0524.2	03.66	16.78	130	030
62000	4	800506	038768	001.16	010.43	0692.6	01.72	01.50	12.4	000.52	001.44	0508.3	02.90	17.31	360	070
62001	0	790209	025314	000.65	001.90	0378.6	03.46	03.06	23.1	000.27	000.25	0249.1	04.65	35.42	270	
62001	M	790221	025512	000.82	003.13	0413.9	04.26	03.76	21.0	000.24	000.40	0257.8	04.48	34.21	110	
62001	1	790504	027220	000.65	002.02	0374.6	03.34	03.17	23.3	000.21	000.28	0256.6	04.24	34.41	999	
62001	2	790821	030262	000.87	003.35	0361.3	02.88	02.94	24.0	000.22	000.31	0266.9	05.18	33.08	999	
62001	3	791130	033201	000.73	003.24	0359.3	03.58	03.00	24.2	000.25	000.23	0262.2	05.55	33.67	999	
62001	4	800214	036649	000.88	003.91	0347.7	03.50	02.74	24.9	000.24	000.28	0257.4	06.14	34.30	030	

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
62002	0	790212	053143	002.48	033.96	0372.7	01.63	01.47	20.4	000.31	002.90	0293.0	01.86	29.71	010	
62002	M	790320	054941	002.36	026.59	0343.9	03.93	03.31	22.6	000.42	003.04	0263.4	05.74	32.91	150	
62002	1	790606	060991	002.15	026.36	0331.4	04.36	03.93	23.4	000.39	003.18	0259.0	06.31	33.43	150	
62002	2	790827	065378	002.68	031.19	0318.5	02.48	02.50	23.6	000.51	004.77	0254.0	04.38	33.70	080	
62002	3	791115	070611	002.91	036.88	0319.8	02.73	02.32	22.9	000.56	004.74	0262.9	05.14	32.59	060	
62002	4	800131	075022	003.62	041.27	0314.1	02.64	02.13	22.7	000.72	005.89	0261.6	05.20	32.46	030	
62003	0	790228	040543	004.76	057.29	0373.7	01.58	01.35	16.4	002.88	109.76	0288.2	01.28	18.87	020	
62003	M	790312	041106	002.93	081.36	0426.0	02.15	01.88	15.7	001.84	075.44	0335.6	02.47	19.28	120	
62003	1	790524	042954	002.25	053.79	0442.1	04.60	04.36	16.6	001.55	042.99	0331.2	04.91	21.97	110	
62003	2	790830	045261	002.65	059.48	0432.8	04.31	04.27	16.6	001.54	045.58	0345.7	05.34	21.00	110	010
62003	3	791129	046613	003.42	068.47	0462.3	05.66	04.66	15.3	001.71	039.06	0362.9	06.47	20.64	030	999
62003	4	800424	049174	002.81	066.10	0444.2	04.02	03.51	15.9	001.85	058.17	0331.2	04.01	20.70	130	020
62101	0	790308	022872	003.46	048.10	0478.5	02.89	02.50	15.7	000.43	005.55	0407.7	03.93	21.22	999	
62101	M	790319	022985	001.57	017.00	0538.3	03.24	02.85	15.6	000.21	002.98	0422.4	04.14	20.73	090	
62101	1	790423	023517	001.76	014.70	0530.7	02.77	02.54	15.9	000.47	010.81	0396.1	02.91	21.39	070	
62101	2	790830	025214	001.48	014.47	0542.8	02.85	02.90	15.6	000.23	003.08	0420.6	03.39	20.81	050	999
62101	3	791205	028416	001.28	012.63	0551.8	03.34	02.99	15.4	000.17	000.54	0428.9	04.62	20.61	100	020
62101	4	800312	029538	001.27	014.63	0524.6	03.35	02.88	16.1	000.18	001.55	0421.1	04.58	20.91	110	999
62102	0	790315	040457	004.79	072.31	0488.8	01.49	01.37	14.4	001.94	023.72	0407.6	01.71	19.66	999	
62102	M	790421	041237	003.58	101.09	0607.1	00.74	00.63	11.4	001.98	068.50	0452.9	00.74	15.65	250	
62102	1	790519	043202	001.63	020.07	0627.8	02.63	02.31	13.3	000.46	005.13	0447.3	03.07	19.41	240	
62102	2	790928	049041	003.35	092.55	0615.8	00.76	00.70	11.5	001.57	048.01	0489.7	00.77	15.55	020	999
62102	3	791211	050450	003.79	083.77	0648.8	00.90	00.76	11.2	001.35	040.95	0505.6	00.89	15.44	999	999
62102	4	800212	051893	003.46	092.08	0598.6	00.80	00.65	11.8	001.55	046.24	0475.9	00.81	16.02	999	999
62103	0	790320	024965	002.16	021.35	0483.7	02.31	02.00	16.9	001.38	020.91	0373.2	02.11	21.61	080	
62103	M	790327	025060	001.50	013.95	0493.0	02.09	01.89	17.1	000.74	008.81	0388.1	01.78	21.94	290	
62103	1	790426	025587	001.84	011.68	0458.2	01.81	01.69	18.4	000.67	006.57	0373.9	01.85	22.95	270	
62103	2	790921	027336	001.59	011.63	0502.3	02.17	02.12	16.9	001.12	013.68	0386.3	01.92	21.56	180	020
62103	3	791219	028393	001.59	011.09	0555.2	07.48	07.10	15.2	000.79	007.30	0418.1	07.65	20.53	200	040
62103	4	800512	029610	001.36	007.78	0492.8	02.57	02.51	17.4	000.62	003.38	0405.6	02.91	21.46	170	030
62104	0	790413	037189	001.09	005.42	0629.1	02.40	02.11	13.8	000.31	000.18	0488.1	02.88	18.12	210	
62104	M	790420	037431	000.79	005.30	0643.9	02.33	01.99	13.5	000.27	000.31	0481.5	02.81	18.37	040	
62104	1	790515	038325	001.17	006.13	0605.4	01.93	01.77	14.3	000.32	000.24	0443.7	02.35	19.93	020	
62104	2	791012	044677	000.89	007.25	0656.5	01.78	01.71	13.2	000.30	000.38	0504.4	02.32	17.53	999	999
62104	3	800115	048106	000.93	004.10	0622.8	02.56	02.11	14.0	000.36	000.34	0469.9	02.82	18.81	020	010
62104	4	800219	049236	002.94	013.45	0612.2	01.98	01.70	13.8	000.35	000.44	0461.0	02.44	19.16	020	999
62105	0	790417	043413	002.40	042.81	0414.6	03.44	02.95	18.1	001.61	036.76	0341.8	03.19	21.91	999	
62105	M	790516	044112	001.57	030.25	0421.9	03.07	02.71	18.7	001.41	037.33	0326.7	02.86	22.75	090	
62105	1	790613	044598	001.52	030.62	0425.0	03.15	02.70	18.6	001.57	046.75	0327.9	02.36	21.82	110	
62105	2	791105	048580	002.31	044.50	0412.5	02.46	02.27	18.1	002.03	054.82	0321.9	02.11	21.40	100	010
62105	3	800122	050107	003.81	065.83	0418.2	03.40	02.78	16.6	002.32	040.62	0329.5	03.29	22.14	999	999
62105	4	800429	051864	002.62	048.20	0428.5	05.80	05.34	17.3	001.01	019.32	0348.4	06.90	23.21	999	999
72000	0	790123	016962	002.78	053.24	0428.8	02.43	02.02	17.0	000.78	008.69	0309.2	02.89	27.26	999	
72000	M	790131	017090	000.56	002.87	0455.6	02.36	01.88	19.2	000.09	000.04	0304.9	03.00	29.05	240	
72000	1	790426	018711	000.50	003.24	0466.4	02.73	02.43	18.7	000.13	000.14	0295.4	03.04	29.96	220	
72000	2	790809	020833	000.46	002.20	0470.8	02.53	02.47	18.6	000.11	000.06	0305.2	02.85	29.02	270	
72000	3	791101	020833	000.51	002.66	0466.1	03.03	02.62	18.8	000.15	000.52	0275.9	03.80	31.99	240	
72000	4	800229	020833	000.51	003.91	0483.0	02.74	02.34	18.1	000.12	000.08	0304.7	03.03	29.05	200	888
72001	0	790124	022711	003.73	037.07	0423.3	03.97	03.42	18.0	001.65	013.43	0345.0	02.61	23.88	080	
72001	M	790202	022830	001.33	015.32	0491.4	02.36	01.92	17.1	000.87	006.08	0379.1	02.13	22.66	250	
72001	1	790503	024609	001.73	018.62	0489.7	02.15	01.94	16.9	001.27	011.03	0358.7	01.91	23.33	160	
72001	2	790906	026817	001.32	021.42	0492.5	01.80	01.80	16.7	001.11	012.01	0375.1	01.75	22.31	230	050
72001	3	791107	027820	001.48	018.65	0493.8	02.14	01.87	16.8	001.21	011.30	0388.3	02.02	21.64	210	050
72001	4	800303	030156	002.03	026.82	0518.7	02.06	01.82	15.6	001.59	018.95	0401.6	01.92	20.32	250	050

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72002	0	790125	034683	005.17	050.07	0489.2	06.94	05.82	15.2	002.16	020.49	0438.0	08.67	18.59	999	
72002	M	790209	035263	001.80	018.06	0534.9	04.85	04.43	15.6	001.64	018.00	0395.3	01.37	20.68	310	
72002	1	790426	038815	001.24	010.23	0460.7	03.75	03.43	18.4	001.24	016.60	0403.5	01.38	20.46	290	
72002	2	790824	043002	005.50	058.96	0461.6	02.66	02.68	15.5	002.58	030.99	0397.5	00.73	19.52	999	999
72002	3	791108	045651	006.13	049.13	0486.6	02.87	02.50	15.2	001.91	024.35	0415.3	00.76	19.29	999	999
72002	4	800402	046321	005.81	066.03	0499.7	03.99	03.27	14.3	003.49	046.37	0411.7	01.53	17.89	030	999
72003	0	790130	052033	001.97	020.45	0298.7	02.26	01.81	26.3	001.39	035.51	0177.6	01.69	37.29	080	
72003	M	790226	052067	002.25	011.72	0352.8	02.81	02.43	23.4	001.02	006.08	0223.4	02.94	37.54	100	
72004	0	790131	019533	008.89	085.92	0488.0	01.38	01.09	13.6	000.99	009.22	0373.9	01.37	22.65	999	
72004	M	790208	019628	002.13	003.75	0608.5	02.52	02.31	14.3	000.24	000.90	0429.0	01.58	20.57	160	
72004	1	790426	021013	004.01	052.86	0510.9	01.20	01.05	14.6	000.51	005.41	0386.2	01.32	22.38	170	
72004	R	790430	021071	000.68	005.19	0570.0	01.36	01.24	15.3	000.08	000.70	0398.1	01.37	22.20	210	
72004	C	790525	021506	000.76	005.06	0578.8	01.23	01.25	15.1	000.10	001.70	0410.3	01.37	21.46	150	
72004	2	790808	022764	001.11	009.08	0549.8	01.38	01.27	15.6	000.11	000.70	0387.5	01.40	22.80	180	020
72004	3	791114	024490	001.13	009.91	0566.7	01.45	01.21	15.1	000.12	000.55	0420.1	01.51	21.05	130	999
72004	4	800403	026952	000.99	009.28	0586.7	01.62	01.34	14.7	000.10	000.38	0428.5	02.22	20.65	140	020
72005	0	790202	017577	003.32	052.04	0473.9	01.37	01.09	15.7	002.26	040.93	0354.9	01.46	20.80	030	
72005	M	790226	018105	003.19	087.98	0582.4	00.85	00.72	12.1	002.15	064.52	0402.2	00.66	17.38	270	
72005	1	790509	019737	005.30	132.35	0524.6	00.87	00.74	11.8	002.71	077.50	0408.5	00.60	16.46	999	
72005	2	790810	021880	004.23	122.30	0551.2	00.75	00.72	11.7	002.54	101.44	0441.7	00.55	14.56	040	999
72005	3	791109	023002	002.93	078.21	0615.6	00.99	00.86	11.9	002.42	099.81	0493.8	00.61	13.47	999	999
72005	4	800131	024144	004.30	086.40	0428.1	01.04	00.81	15.4	002.91	079.83	0343.7	00.97	18.54	999	999
72006	0	790201	007443	008.24	127.09	0376.7	01.58	01.28	14.7	002.73	026.75	0382.1	02.66	20.49	999	
72006	M	790212	007538	003.30	036.54	0568.3	00.63	00.57	13.9	001.26	015.14	0443.5	00.66	18.82	140	
72006	1	790428	008496	005.62	082.97	0481.1	01.73	01.60	14.1	001.93	021.12	0401.2	01.80	20.13	999	
72006	R	790430	008573	002.76	023.74	0516.7	01.50	01.39	15.8	000.61	008.70	0428.7	01.39	19.96	090	
72006	C	790529	008743	002.75	022.90	0519.3	01.72	01.47	15.7	000.61	009.05	0421.5	01.44	20.26	090	
72006	2	790808	009186	003.26	026.88	0517.3	01.48	01.37	15.6	000.40	004.76	0443.1	01.15	19.63	060	999
72006	3	791108	010559	004.00	036.10	0509.3	01.72	01.49	15.3	001.51	017.53	0420.1	01.89	19.60	030	999
72006	4	800129	011429	002.30	018.28	0526.6	02.12	01.69	15.8	000.55	008.90	0417.5	01.53	20.47	100	
72007	0	790201	012220	004.67	090.79	0337.6	01.82	01.45	17.9	002.85	087.11	0281.1	02.37	20.77	050	
72007	M	790222	012631	004.16	093.24	0428.3	02.02	01.75	15.1	002.96	084.41	0342.4	03.42	18.31	170	
72007	1	790503	014461	004.68	104.35	0412.2	02.16	01.96	15.0	002.88	086.29	0324.7	03.00	18.89	080	
72007	2	790808	016213	004.94	108.88	0413.8	02.24	02.15	14.8	002.79	085.51	0331.1	02.96	18.70	070	999
72007	3	791107	017765	005.64	122.26	0404.3	02.07	01.81	14.4	003.07	093.76	0332.9	02.99	18.10	070	010
72007	4	800130	019009	006.34	122.42	0393.1	02.14	01.67	14.6	003.50	091.67	0317.4	02.89	18.77	040	999
72008	0	790202	027671	001.95	036.72	0343.2	02.99	02.38	21.8	000.80	005.68	0247.0	04.79	34.31	999	
72008	M	790222	028333	001.31	019.52	0378.5	01.68	01.47	21.5	000.47	006.01	0273.3	02.25	31.20	190	
72008	1	790504	030938	001.50	012.25	0358.7	02.97	02.84	23.2	000.77	003.92	0245.9	05.21	34.84	260	
72008	2	790817	035972	001.06	015.87	0360.0	02.17	02.11	22.8	000.74	005.01	0243.6	05.08	34.94	080	
72008	3	791109	039597	000.95	018.06	0382.5	01.51	01.31	21.4	000.24	004.15	0274.7	01.81	31.45	120	
72008	4	800327	045076	001.59	035.15	0353.8	02.72	02.23	21.4	000.56	006.85	0266.8	03.90	31.75	999	888
72009	0	790207	023508	001.68	011.27	0554.4	01.74	01.50	15.4	000.18	000.31	0406.1	01.94	21.78	060	
72009	M	790302	024240	000.51	004.63	0624.5	04.03	03.41	14.0	000.06	000.20	0419.9	04.14	21.09	410	
72009	1	790511	025532	000.56	002.10	0544.1	05.07	04.49	16.1	000.10	000.05	0379.0	05.28	23.37	290	
72009	2	790829	028552	000.57	002.27	0577.1	05.58	05.62	15.2	000.09	000.04	0423.1	05.78	20.94	400	100
72009	3	791203	030621	000.86	008.10	0606.4	06.46	05.81	14.3	000.12	000.07	0423.3	06.05	20.93	350	120
72009	4	800425	034353	000.48	003.37	0478.5	05.09	04.44	18.3	000.09	000.05	0327.8	04.95	27.02	350	130
72010	0	790215	025237	001.37	024.15	0302.7	02.75	02.35	25.7	000.53	008.66	0230.8	02.80	36.04	999	
72010	M	790222	025395	000.90	012.71	0316.2	02.41	02.10	26.2	000.52	008.89	0224.8	02.69	36.88	170	
72010	1	790518	028735	000.73	011.51	0305.7	02.33	02.08	27.2	000.17	002.47	0230.2	02.23	37.79	200	
72010	2	790820	032347	000.81	010.06	0296.4	01.97	01.97	28.2	000.27	004.35	0232.4	01.87	36.93	160	
72010	3	791120	035114	000.77	010.59	0307.0	02.47	02.09	27.2	000.23	003.37	0219.8	02.21	39.27	160	
72010	4	800610	041310	000.97	010.67	0317.6	02.89	02.62	26.3	000.46	005.11	0233.9	02.89	36.44	150	888

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72011	0	790220	021667	001.95	031.18	0340.3	01.70	01.47	22.4	001.31	018.07	0219.6	02.20	35.17	080	
72011	M	790226	021781	001.42	012.54	0355.8	01.73	01.50	23.3	000.95	007.49	0238.2	02.59	35.06	160	
72011	1	790516	023370	001.42	007.47	0336.4	01.55	01.38	25.1	000.85	003.56	0218.3	02.35	39.14	180	
72011	2	790820	025098	001.95	011.33	0349.7	01.79	01.81	23.7	001.35	010.83	0222.8	02.16	36.32	100	
72011	3	791126	027216	002.32	010.75	0351.3	02.03	01.76	23.6	001.46	006.38	0232.8	02.83	35.83	150	
72011	4	800512	030432	002.60	009.36	0369.9	02.07	01.89	22.6	001.47	005.65	0239.9	02.64	34.99	190	888
72012	0	790226	021346	000.77	012.43	0344.0	02.80	02.36	24.2	000.11	001.94	0267.3	02.38	32.76	070	
72012	M	790301	021382	000.81	012.51	0343.8	02.81	02.33	24.2	000.11	001.92	0265.5	02.64	32.98	040	
72012	1	790522	024136	000.67	011.57	0330.0	02.57	02.38	25.3	000.14	002.64	0241.4	01.79	36.05	090	
72012	2	790822	027786	000.67	011.92	0323.7	02.38	02.37	25.7	000.14	002.52	0237.6	01.97	36.64	070	888
72012	3	791127	031128	000.88	014.10	0325.7	02.78	02.36	25.3	000.09	001.66	0248.2	02.20	35.33	070	888
72013	0	790227	019481	001.45	020.44	0493.8	06.26	05.58	16.7	000.41	010.78	0363.8	04.56	23.21	060	
72013	M	790305	019540	000.76	013.02	0473.5	05.38	05.25	17.9	000.09	001.04	0356.5	07.97	24.74	090	
72013	1	790522	020148	000.52	008.13	0497.8	06.81	06.23	17.3	000.06	000.41	0344.9	08.14	25.65	160	
72013	2	790821	023335	000.93	020.23	0483.5	05.40	05.42	17.1	000.12	002.01	0353.9	06.32	24.81	050	999
72013	3	791127	024798	001.18	023.53	0489.8	06.22	05.38	16.7	000.15	001.66	0384.2	09.87	22.90	999	999
72013	4	800206	025469	001.13	017.21	0485.3	06.23	05.37	17.2	000.15	002.30	0361.1	07.37	24.28	100	020
72014	0	790228	022794	001.12	019.99	0592.1	01.77	01.49	14.1	000.13	000.82	0447.5	02.09	19.74	999	
72014	M	790315	023811	000.37	002.58	0599.5	01.49	01.35	14.7	000.03	000.05	0442.1	01.56	20.05	100	
72014	1	790529	024749	000.81	008.68	0581.8	01.98	01.66	14.8	000.06	000.32	0423.6	02.34	20.90	999	
72014	2	790824	026877	001.07	010.76	0570.9	01.52	01.60	15.0	000.08	000.38	0428.7	01.74	20.64	999	999
72014	3	791127	029577	001.26	021.63	0586.2	02.06	01.73	14.2	000.11	000.80	0451.2	02.30	19.58	020	999
72014	4	800205	030672	001.23	022.13	0569.7	01.86	01.55	14.6	000.14	001.13	0443.8	02.17	19.88	020	999
72015	0	790301	015806	005.11	100.36	0369.5	01.21	01.02	16.3	001.13	019.69	0333.4	01.91	24.11	999	
72015	M	790322	016144	002.37	033.66	0471.3	01.44	01.21	15.7	000.54	008.46	0353.0	02.66	24.09	090	
72015	1	790607	017768	001.54	028.00	0469.6	01.34	01.20	17.1	000.26	005.25	0337.8	02.43	25.57	170	
72015	2	790904	021107	002.05	043.73	0458.8	01.10	01.07	16.6	000.46	011.05	0342.0	01.41	24.58	110	999
72015	3	791205	022981	002.16	033.28	0452.0	01.28	01.12	17.4	000.49	007.78	0342.3	02.16	24.90	130	010
72015	4	800418	025980	002.04	034.15	0473.8	01.44	01.28	16.6	000.40	007.64	0329.0	02.17	25.91	110	020
72016	0	790302	012746	002.40	038.95	0592.1	01.55	01.30	13.4	001.27	019.07	0419.1	02.52	19.57	110	
72016	M	790328	013020	000.76	010.38	0583.1	01.80	01.54	14.7	000.16	002.93	0432.3	01.75	20.28	120	
72016	1	790620	013883	000.94	018.20	0603.2	01.67	01.55	14.0	000.11	001.20	0446.2	02.84	19.78	100	
72016	2	790831	014960	000.84	014.38	0568.4	01.31	01.32	14.9	000.12	002.45	0429.7	01.47	20.43	030	020
72016	3	791128	015829	001.11	015.58	0660.2	03.31	02.74	12.9	000.18	001.94	0439.2	03.07	20.03	070	999
72016	4	800416	017797	001.77	035.46	0614.6	01.61	01.43	13.1	000.75	015.73	0438.6	02.07	19.04	999	999
72051	0	790305	023918	002.66	060.91	0502.4	01.40	01.36	14.6	000.22	004.39	0409.3	01.56	21.27	999	
72051	M	790403	024444	000.64	005.49	0543.9	01.79	01.55	16.0	000.06	000.03	0414.8	01.88	21.37	150	
72051	1	790522	025420	000.54	005.62	0536.1	02.06	01.90	16.2	000.06	000.02	0398.1	01.85	22.26	160	
72051	2	790905	030760	000.49	003.42	0573.1	01.69	01.72	15.3	000.09	000.01	0425.0	01.66	20.85	220	090
72051	3	791207	033222	000.55	007.17	0534.9	02.60	02.38	16.2	000.08	000.02	0388.2	02.43	22.83	130	020
72051	4	800507	037001	000.49	007.00	0535.9	02.16	02.07	16.2	000.07	000.02	0356.1	01.71	24.89	140	010
72052	0	790306	020648	002.79	048.82	0310.2	01.43	01.37	22.4	001.61	030.35	0220.3	02.01	32.47	999	
72052	M	790316	020900	002.04	013.67	0337.8	01.81	01.59	24.2	001.05	007.42	0239.7	02.91	34.81	170	
72052	1	790515	022575	001.81	008.24	0326.3	01.84	01.65	25.7	000.88	003.97	0226.6	02.79	37.64	200	
72052	2	790907	026067	001.97	009.43	0314.4	02.76	02.69	26.4	001.24	011.22	0217.9	03.31	37.04	080	
72052	3	791210	028917	001.71	014.28	0323.2	03.17	02.70	25.3	001.44	026.13	0205.0	02.95	35.39	100	
72052	4	800418	031375	001.83	013.90	0333.8	03.63	03.21	24.5	001.19	009.83	0223.1	04.11	36.60	999	888
72053	0	790307	022034	002.08	035.38	0436.9	01.66	01.46	18.0	000.27	002.63	0338.0	02.12	25.86	020	
72053	M	790327	023061	000.84	012.01	0467.0	01.71	01.54	18.2	000.12	001.09	0344.8	02.03	25.57	160	
72053	1	790516	024430	001.30	015.52	0449.1	01.61	01.42	18.6	000.13	000.71	0348.0	01.95	25.37	040	
72053	2	790831	026983	001.39	016.94	0447.8	01.33	01.40	18.5	000.19	001.13	0345.6	01.68	25.48	070	999
72053	3	791204	030799	001.22	014.72	0459.0	01.53	01.44	18.2	000.12	000.62	0349.9	02.01	25.25	080	999

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72054	0	790313	013428	003.46	069.86	0416.4	05.23	04.32	16.5	000.52	008.45	0348.2	01.94	24.42	999	
72054	M	790405	013736	000.71	005.37	0455.5	09.36	08.24	19.0	000.09	000.74	0357.3	02.96	24.72	300	
72054	1	790605	014777	000.71	010.76	0450.6	08.32	07.98	18.9	000.09	001.31	0348.1	03.05	25.30	250	
72055	0	790315	035152	003.97	057.39	0533.1	06.00	05.50	13.9	000.36	003.79	0431.1	06.98	20.24	999	
72055	M	790323	035588	001.13	018.75	0643.0	05.92	04.97	13.1	000.15	001.57	0445.2	07.98	19.79	060	
72055	1	790523	037900	000.55	007.96	0671.1	06.17	05.84	12.9	000.10	000.21	0440.0	03.75	20.12	250	
72055	2	790920	043378	000.52	008.01	0616.6	06.14	06.08	14.1	000.10	000.46	0399.3	07.45	22.15	250	030
72055	3	791213	046639	000.48	007.48	0644.7	06.93	06.25	13.5	000.11	000.42	0446.9	09.29	19.80	230	040
72055	4	800508	053034	001.61	043.22	0625.0	06.20	05.50	12.7	000.18	002.36	0415.9	07.71	21.11	050	010
72056	0	790321	020227	002.54	037.97	0504.6	01.12	00.94	15.5	000.25	002.08	0396.7	01.42	22.13	999	
72056	M	790424	020625	001.42	012.52	0531.0	01.12	01.01	15.0	000.12	001.24	0391.3	01.32	22.53	110	
72056	1	790609	020887	001.40	013.11	0525.5	01.04	00.97	16.1	000.11	000.80	0371.6	01.20	23.76	060	
72056	2	790926	021848	001.73	017.52	0548.7	01.04	00.95	15.2	000.16	001.16	0413.7	01.39	21.32	040	999
72056	3	800103	023259	001.45	015.59	0542.2	01.05	00.91	15.5	000.14	001.04	0408.1	01.17	21.62	060	999
72056	4	800212	023683	001.01	010.85	0530.3	01.31	01.06	16.1	000.12	001.79	0396.0	01.51	22.21	090	999
72057	0	790323	017862	000.39	004.91	0323.3	03.18	02.72	26.7	000.08	000.40	0264.0	04.24	33.48	070	
72057	M	790403	018090	000.45	006.49	0319.9	03.05	02.63	26.8	000.08	000.80	0254.7	03.61	34.61	999	
72057	1	790519	019228	000.52	010.60	0316.8	02.67	02.34	26.5	000.11	001.13	0251.7	03.36	34.93	050	
72057	2	791010	023884	000.53	007.93	0314.5	02.56	02.19	27.0	000.10	000.67	0254.0	03.40	34.72	070	888
72057	3	791219	025663	002.12	039.61	0308.0	02.56	02.36	23.5	000.40	005.47	0249.0	02.61	34.26	999	888
72057	4	800516	030590	000.88	014.21	0307.7	02.27	02.11	26.6	000.18	002.13	0240.6	02.33	36.27	999	888
72058	0	790328	014102	001.36	028.11	0448.2	01.72	01.55	17.9	000.24	003.42	0345.3	01.48	25.23	999	
72058	M	790404	014331	001.02	016.33	0461.2	01.74	01.51	18.1	000.23	002.78	0326.5	01.50	26.74	080	
72058	1	790523	015425	001.13	015.92	0441.9	01.70	01.62	18.8	000.27	003.08	0316.7	01.47	27.50	070	
72058	2	791023	019912	001.39	019.71	0412.3	02.32	02.20	19.8	000.49	003.81	0311.0	02.29	27.84	040	
72058	3	800103	020722	001.31	018.24	0412.0	02.41	02.11	19.9	000.30	003.20	0304.6	02.27	28.56	060	
72058	4	800522	022721	001.28	018.83	0398.1	03.00	02.88	20.5	000.37	003.49	0293.2	03.07	29.58	050	888
72059	0	790323	053120	003.80	058.67	0478.9	01.23	01.09	15.2	002.16	033.45	0358.3	01.16	21.23	060	
72059	M	790405	053304	003.37	049.70	0502.2	01.36	01.22	15.0	001.98	030.46	0379.3	01.32	20.46	170	
72059	1	790523	054524	003.08	049.68	0478.1	01.06	00.99	15.7	001.84	032.25	0345.7	01.03	22.05	180	
72060	0	790327	024825	004.65	080.93	0506.0	00.83	00.73	13.7	001.60	020.15	0406.5	00.95	20.01	999	
72060	M	790410	025485	001.57	018.19	0583.5	00.81	00.72	14.4	000.57	010.04	0418.0	00.73	20.36	190	
72060	1	790525	026880	001.31	018.20	0563.2	00.70	00.65	14.9	000.43	006.94	0415.8	00.69	20.56	200	
72060	2	791005	033231	001.79	022.23	0608.5	00.72	00.68	13.7	000.42	007.89	0422.1	00.60	20.35	080	020
72060	3	791227	039304	001.54	015.61	0577.9	00.88	00.75	14.6	000.42	004.32	0421.0	00.96	20.67	110	030
72060	4	800522	045071	001.50	017.01	0565.1	00.81	00.77	14.9	000.41	007.28	0388.4	00.63	22.10	090	020
72061	0	790330	024226	001.54	010.18	0308.7	02.22	01.90	26.9	000.80	003.57	0225.9	04.12	37.89	100	
72061	M	790405	024439	001.49	007.28	0308.7	02.09	01.90	27.3	000.90	003.39	0229.4	04.35	37.32	210	
72061	1	790525	025620	001.63	008.68	0293.4	02.16	02.11	28.4	001.07	004.63	0217.4	04.23	38.88	100	
72061	2	791008	029471	002.02	011.46	0309.9	02.45	02.32	26.5	001.12	004.37	0211.5	03.49	39.96	100	
72062	0	790330	033352	002.24	026.98	0604.7	02.38	02.04	13.6	000.34	001.41	0429.8	02.67	20.47	999	
72062	M	790406	033403	001.32	009.09	0612.1	02.40	02.14	14.1	000.24	000.47	0424.5	02.60	20.82	140	
72062	1	790525	036428	001.13	006.95	0617.4	02.25	02.11	14.0	000.23	000.46	0408.8	02.41	21.62	140	
72062	2	790925	042495	001.49	008.71	0601.3	02.44	02.44	14.3	000.32	000.59	0402.5	02.64	21.92	140	020
72062	3	791226	044600	001.09	010.39	0606.9	02.64	02.30	14.2	000.24	000.18	0416.5	03.21	21.24	100	020
72062	4	800520	048893	001.10	007.66	0595.6	02.56	02.65	14.5	000.25	000.59	0410.4	02.78	21.52	110	040
72063	0	790403	022664	003.05	045.14	0528.8	02.80	02.44	14.6	000.35	002.55	0392.6	02.28	22.30	100	
72063	M	790418	022910	001.21	011.33	0590.8	09.19	07.95	14.5	000.13	000.16	0421.1	09.36	21.03	110	
72063	1	790604	024363	003.07	056.85	0533.2	01.77	01.68	14.0	000.28	003.05	0379.6	01.36	23.02	040	
72063	R	790607	024401	001.26	010.90	0563.5	02.57	02.27	15.2	000.13	000.38	0387.4	01.70	22.83	190	
72063	C	790706	025516	000.79	006.52	0615.6	02.54	02.40	14.1	000.16	000.19	0420.4	01.67	21.05	200	
72063	2	790928	027319	001.04	007.97	0611.6	02.10	01.94	14.1	000.19	000.32	0441.3	01.46	20.05	160	999
72063	3	800104	032236	001.39	011.65	0597.8	02.21	01.91	14.3	000.20	000.72	0420.3	01.54	21.01	210	010
72063	4	800422	035407	001.43	011.89	0601.4	02.70	02.39	14.2	000.18	000.33	0403.1	01.62	21.94	220	020

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72064	0	790403	022161	006.53	108.87	0404.1	05.10	04.46	14.9	002.08	023.76	0368.3	06.85	21.51	999	
72064	M	790501	022795	002.39	023.92	0469.9	05.90	05.23	17.2	001.07	009.83	0370.5	07.21	22.78	160	
72064	1	790615	024364	002.26	023.42	0476.8	06.35	05.69	17.0	001.17	010.28	0356.8	07.58	23.54	160	
72065	0	790410	010091	003.46	073.76	0463.7	01.44	01.27	15.0	000.43	010.21	0375.6	02.07	22.56	999	
72065	M	790424	010300	000.80	014.95	0484.4	01.89	01.70	17.4	000.10	002.68	0370.1	02.54	23.67	310	
72065	1	790608	010948	000.77	015.99	0476.1	01.75	01.71	17.6	000.09	003.07	0363.7	02.39	24.04	350	
72065	2	791017	012692	001.10	019.39	0476.0	01.74	01.57	17.4	000.08	001.30	0361.4	02.46	24.39	340	090
72065	3	800115	013723	000.96	018.78	0482.3	01.93	01.60	17.2	000.13	003.45	0377.2	02.37	23.15	260	090
72065	4	800529	015768	001.18	022.47	0502.4	01.62	01.48	16.4	000.10	002.20	0386.5	02.56	22.72	300	120
72101	0	790309	019826	001.20	020.88	0330.1	03.42	02.81	24.2	000.63	003.56	0240.6	05.60	35.72	999	
72101	M	790320	019900	001.22	018.73	0343.5	03.28	02.71	23.5	000.68	004.03	0253.8	05.85	33.80	010	
72101	1	790424	020789	001.11	015.60	0346.6	02.99	02.67	23.7	000.61	003.29	0242.7	04.98	35.50	999	
72101	2	790907	027284	001.48	019.85	0355.4	02.58	02.60	22.7	000.86	005.60	0242.1	04.89	34.97	999	
72101	3	791206	029861	001.13	015.58	0313.9	04.10	03.59	25.5	000.60	004.43	0242.3	07.35	35.31	999	
72101	4	800418	034812	001.06	021.37	0331.5	03.12	02.87	24.1	000.44	004.78	0255.3	03.77	33.57	999	888
72102	0	790309	025978	001.70	022.45	0567.6	02.55	02.09	14.6	000.19	000.99	0397.0	02.48	22.22	060	
72103	0	790312	018974	001.82	025.59	0466.9	01.33	01.17	17.3	000.24	006.21	0349.5	01.93	24.63	060	
72103	M	790326	019240	001.95	039.24	0505.6	01.93	01.73	15.5	000.24	005.82	0376.0	02.31	22.98	060	
72103	1	790430	020171	001.37	022.31	0472.6	05.56	05.00	17.3	000.17	002.22	0349.8	07.03	25.07	050	
72103	2	790907	023117	001.38	020.95	0462.2	05.53	05.47	17.8	000.24	003.20	0353.4	06.77	24.69	050	020
72103	3	791210	024702	001.32	020.26	0473.5	06.57	05.68	17.4	000.19	001.45	0363.9	09.30	24.18	020	999
72103	4	800421	026698	001.32	020.14	0470.5	06.49	05.57	17.5	000.19	001.87	0350.4	07.22	25.05	070	010
72104	0	790309	028978	001.62	022.17	0309.1	02.92	02.37	25.4	000.99	006.59	0211.9	03.46	39.34	030	
72104	M	790327	029253	001.80	008.54	0351.9	02.82	02.49	23.9	000.84	002.73	0224.2	03.26	38.37	190	
72104	1	790501	029911	001.42	006.71	0340.6	02.68	02.37	24.9	000.61	001.97	0224.0	03.32	38.72	170	
72104	2	790911	032224	001.72	005.97	0334.3	02.70	02.50	25.4	000.79	001.99	0212.3	03.14	40.70	160	
72104	3	791205	033800	001.54	006.69	0351.3	02.89	02.59	24.2	000.94	002.25	0234.8	03.62	36.74	100	
72104	4	800429	036372	002.13	009.57	0345.3	03.40	03.02	24.2	001.30	003.57	0215.9	04.06	39.29	140	888
72105	0	790309	021469	002.13	040.87	0531.0	02.09	01.74	14.7	000.27	011.55	0423.8	02.33	20.03	999	
72105	M	790326	021786	001.61	021.17	0617.6	01.32	01.18	13.5	000.15	000.74	0430.3	01.59	20.53	110	
72105	1	790428	022770	000.63	005.94	0619.8	01.58	01.44	14.1	000.11	000.43	0424.7	01.66	20.83	100	
72105	2	790910	025772	000.89	008.65	0621.6	02.08	01.98	13.9	000.10	000.40	0428.9	02.32	20.63	070	040
72105	3	791217	028464	001.25	015.52	0612.3	02.23	01.96	13.8	000.12	000.15	0429.7	02.51	20.61	110	040
72106	0	790315	011018	002.08	032.25	0635.9	01.82	01.63	12.8	000.16	001.16	0489.3	02.38	18.04	080	
72106	M	790322	011136	000.30	002.58	0744.7	01.84	01.53	11.8	000.08	000.08	0539.1	01.73	16.44	030	
72106	1	790503	011904	000.46	002.88	0720.3	01.38	01.24	12.2	000.08	000.09	0511.5	01.39	17.32	110	
72106	2	790914	013765	001.73	006.53	0746.4	01.06	01.07	11.6	000.09	000.56	0530.3	01.08	16.69	110	020
72106	3	791214	015185	002.08	006.67	0766.3	01.15	01.03	11.3	000.10	000.44	0558.5	01.23	15.85	050	010
72106	4	800512	016817	002.92	009.40	0765.8	01.15	01.03	11.2	000.11	000.14	0534.0	01.27	16.59	090	010
72107	0	790319	010725	002.48	034.66	0522.2	03.10	02.68	15.2	000.09	000.88	0389.6	03.64	22.66	020	
72107	M	790328	010912	000.57	007.61	0540.8	03.33	02.84	16.0	000.05	000.13	0377.5	04.05	23.47	100	
72107	1	790502	011867	002.75	054.72	0489.3	03.13	02.71	15.2	000.16	003.12	0376.2	03.83	23.24	999	
72107	R	790504	011907	000.40	003.45	0528.4	03.31	03.14	16.6	000.05	000.04	0389.8	03.87	22.74	120	
72107	C	790601	012313	000.56	004.46	0523.6	03.01	03.00	16.7	000.04	000.02	0359.4	03.27	24.66	090	
72107	2	790919	014915	000.42	003.93	0548.5	03.23	03.21	16.0	000.04	000.02	0404.3	03.66	21.93	120	030
72107	3	791218	016281	000.62	005.62	0538.2	02.98	02.76	16.2	000.05	000.04	0383.3	03.23	23.12	120	030
72107	4	800507	018543	000.52	005.73	0518.8	03.09	02.84	16.8	000.04	000.04	0371.8	03.48	23.84	140	030
72108	0	790320	037688	002.50	063.58	0413.7	02.32	01.91	17.0	001.22	022.80	0280.6	02.63	27.69	999	
72108	M	790330	038433	001.09	020.05	0515.9	03.82	03.29	16.1	000.36	003.46	0305.9	03.76	28.38	140	
72108	1	790509	040794	000.96	015.30	0456.7	02.30	01.97	18.3	000.28	002.00	0297.0	02.87	29.46	090	
72108	2	790921	050723	000.67	004.15	0482.4	01.91	01.87	18.1	000.42	002.01	0311.1	02.35	28.10	240	

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	ODOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72109	0	790327	012676	002.29	035.18	0502.4	02.12	01.91	15.7	000.28	002.08	0367.4	02.91	23.87	999	
72109	M	790410	012914	000.62	003.04	0527.7	02.45	02.11	16.6	000.08	000.08	0355.9	03.34	24.89	100	
72109	1	790508	013375	000.57	002.98	0520.0	02.35	02.10	16.8	000.08	000.08	0363.5	03.28	24.37	120	
72109	2	790927	016121	000.76	003.27	0544.3	01.57	01.51	16.1	000.12	000.32	0393.0	02.21	22.51	140	030
72109	3	800104	018244	001.28	005.87	0507.3	01.54	01.35	17.0	000.19	000.44	0364.2	02.32	24.27	040	999
72109	4	800522	021006	001.01	005.34	0531.6	01.58	01.40	16.3	000.21	000.50	0372.6	02.02	23.71	070	030
72110	0	790411	031327	002.13	021.23	0560.1	01.34	01.15	14.8	000.25	001.35	0429.6	01.30	20.50	999	
72110	M	790418	031436	000.68	003.09	0637.8	01.28	01.08	13.8	000.11	000.27	0437.9	01.08	20.22	130	
72110	1	790511	032231	000.82	005.65	0583.7	01.02	00.90	14.9	000.11	000.13	0407.2	01.07	21.75	190	
72110	2	791009	037441	001.34	011.83	0607.5	01.17	01.02	14.1	000.17	000.43	0411.1	01.21	21.51	100	030
72110	3	800108	040022	000.88	007.15	0616.9	01.24	01.04	14.1	000.13	000.54	0427.0	01.40	20.71	120	040
72110	4	800602	045374	001.03	003.22	0683.1	01.52	01.34	12.8	000.21	000.55	0465.3	01.01	19.00	200	070
72111	0	790412	027640	002.31	031.20	0529.1	01.61	01.44	15.1	000.31	002.21	0437.9	02.67	20.05	060	
72111	M	790420	027763	001.68	025.88	0544.7	02.01	01.71	15.0	000.23	001.47	0423.0	03.65	20.81	020	
72111	1	790512	028240	001.67	029.01	0542.9	01.76	01.55	14.9	000.23	001.98	0408.9	02.90	21.48	999	
72111	2	791010	030889	001.55	024.13	0565.2	01.73	01.55	14.6	000.20	001.50	0441.2	03.06	19.96	999	999
72111	3	800108	032498	001.84	022.82	0561.7	02.11	01.73	14.7	000.24	001.63	0406.5	03.73	21.64	999	999
72111	4	800213	033506	001.68	026.75	0535.5	02.06	01.68	15.2	000.24	001.85	0419.2	03.40	20.97	999	999
72112	0	790413	035163	003.24	061.53	0558.4	02.13	01.86	13.3	000.36	004.01	0432.6	02.19	20.15	999	
72112	M	790418	035329	001.59	032.23	0730.6	01.17	01.00	11.3	000.31	008.64	0485.7	00.95	17.73	150	
72112	1	790518	035932	006.92	126.75	0580.2	00.84	00.75	11.1	000.91	017.93	0495.9	00.95	16.83	999	
72112	R	790523	035972	001.21	013.18	0621.7	02.33	02.19	13.7	000.21	001.28	0428.0	02.16	20.59	160	
72112	C	790621	036520	001.12	009.70	0617.8	02.52	02.22	13.9	000.16	000.66	0430.1	02.03	20.55	200	
72112	2	791016	041249	000.95	014.91	0601.5	01.80	01.72	14.1	000.17	001.39	0426.8	01.64	20.65	160	030
72112	3	800115	044233	000.90	009.26	0604.1	02.48	02.07	14.3	000.19	000.70	0422.9	01.92	20.89	210	030
72112	4	800604	048534	000.74	008.01	0571.4	02.39	02.26	15.1	000.15	000.88	0393.3	01.60	22.44	200	030
72113	0	790413	057349	001.65	025.03	0586.1	01.90	01.65	14.1	000.25	002.09	0441.8	03.35	19.89	030	
72113	M	790421	057705	000.95	008.62	0594.4	02.00	01.71	14.5	000.16	000.29	0447.1	03.00	19.79	130	
72113	1	790525	060200	000.91	008.82	0575.0	01.82	01.81	15.0	000.21	000.43	0437.2	03.16	20.22	070	
72113	2	791015	070203	000.97	012.03	0615.4	01.75	01.70	13.9	000.16	000.49	0464.6	02.79	19.04	180	090
72113	3	800114	075177	001.87	028.84	0608.8	01.92	01.62	13.4	000.27	001.87	0479.8	03.12	18.34	050	010
72113	4	800505	079208	001.06	010.75	0622.8	01.78	01.61	13.8	000.14	000.52	0478.4	02.72	18.49	110	020
72114	0	790418	023487	002.90	057.38	0409.9	02.12	01.81	17.4	001.47	025.95	0281.8	02.29	27.10	999	
72114	M	790516	023905	000.79	006.77	0465.7	02.33	02.04	18.5	000.38	003.56	0309.3	02.67	28.06	090	
72114	1	790614	024312	000.72	005.66	0441.2	02.47	02.12	19.6	000.38	003.63	0303.0	02.71	28.61	210	
72114	2	791018	026907	000.88	006.87	0454.5	03.13	02.86	18.9	000.33	003.17	0280.8	03.50	30.91	120	
72114	3	800128	029634	000.84	004.62	0444.5	03.33	02.55	19.5	000.25	001.51	0275.0	03.78	31.88	250	
72114	4	800424	032654	000.74	005.63	0449.8	02.37	02.08	19.2	000.20	001.18	0308.3	02.71	28.54	280	888
72115	0	790420	041999	003.37	063.42	0410.5	01.13	00.97	17.0	000.41	006.62	0323.5	01.53	26.46	999	
72115	M	790510	042758	000.53	004.67	0476.2	01.29	01.18	18.3	000.05	000.03	0321.2	01.14	27.59	300	
72115	1	790607	043771	005.86	137.41	0494.3	01.33	01.16	12.2	000.08	000.27	0335.7	01.66	26.36	300	
72115	R	790609	043822	001.08	003.99	0449.5	01.78	01.62	19.3	000.14	000.51	0316.3	01.89	27.93	080	
72115	C	790706	045435	001.21	014.13	0459.9	01.56	01.44	18.2	000.14	000.62	0327.6	01.47	26.96	080	
72115	2	791026	050983	000.74	003.76	0507.3	01.56	01.41	17.2	000.11	000.06	0372.4	01.67	23.78	680	130
72115	3	800128	055922	001.13	008.76	0505.1	02.03	01.55	17.0	000.15	000.13	0351.4	02.30	25.19	100	
72115	4	800425	059869	001.23	009.39	0507.5	01.81	01.61	16.9	000.15	000.10	0357.3	02.19	24.77	080	060
72116	0	790424	028239	002.57	038.24	0451.5	03.88	03.45	17.1	000.34	004.68	0393.0	01.41	22.09	999	
72116	M	790516	029207	000.58	008.44	0481.2	04.55	04.07	17.9	000.10	000.52	0382.9	01.93	23.09	140	
72116	1	790614	030452	000.75	011.17	0468.0	03.64	03.22	18.2	000.15	002.37	0376.4	01.38	23.30	160	
72116	2	791026	035641	000.55	005.38	0506.7	03.45	03.15	17.2	000.06	000.21	0451.5	01.83	19.62	160	010
72116	3	800129	039786	000.75	013.06	0453.9	03.27	02.51	18.6	000.09	000.57	0389.0	01.85	22.73	120	010

APPENDIX C - FTP AND HFET RESULTS

1975 - 77 PORTLAND FAIL

EPA NO	SEQ	DATE	JDOM	FTP HC	FTP CO	FTP CO2	FTP NOX	FTP NOXC	FTP MPG	HFET HC	HFET CO	HFET CO2	HFET NOX	HFET MPG	PROPANE NEU	PROPANE DR
72117	0	790507	023929	002.11	057.22	0284.3	00.97	00.88	23.3	000.83	006.69	0217.6	02.86	38.44	999	
72117	M	790509	023971	001.41	030.39	0318.3	01.21	01.08	23.9	000.51	002.01	0213.0	02.55	40.73	220	
72117	1	790608	024845	001.63	036.67	0337.7	01.40	01.26	22.1	000.46	001.99	0214.5	02.74	40.47	120	
72117	2	791030	029829	002.04	044.98	0328.4	01.49	01.35	21.9	000.81	003.44	0243.6	03.74	35.25	080	
72117	4	800515	036698	001.74	019.96	0317.4	02.13	01.96	25.0	000.78	002.10	0210.9	03.74	40.93	150	888